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SEDIMENT STATION ANALYSIS HUMBER RIVER AT ELDER MILLS
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SEDIMENT STATION ANALYSIS

HUMBER RIVER AT ELDER MILLS

02HC025

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by

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ABSTRACT

Sediment data have been collected at the hydrometric gauging station, Humber River at Elder Mills 02HC025, from 1966 to 1986. Station objectives were two-fold; first, to complement biological studies on fish spawning habitats and second, to collect information for possible reservoir construction in the basin.

This report conveys hydrometric, suspended sediment, bed material and dissolved solids information in various tabular, graphical and statistical ways.

An increasing trend in flow has been observed since 1972 which probably reflects changing climatic conditions. This trend has also been noted in other streams in Southern Ontario.

The total suspended sediment load transported over the 1967-1985 period was 4.9×10^5 tonnes with a mean annual load of 25.8×10^3 tonnes. More than 75% of the annual load is carried during the January to May period. Annual loads show a distinct peak over the 1974 to 1980 period. An increase in the load contributed by June to December flows has been observed since 1975. The causes for these trends are unknown.

Suspended sediment particles size data indicate that the material being transported is composed on average of 21% clays, 59% silts

and 20% sands. Dissolved solids concentrations show an inverse relationship with discharge. The annual solute load is approximately 23×10^3 tonnes. A combined annual load (suspended sediment and dissolved solids) of 45×10^3 tonnes has been estimated.

A continuation of the current sampling program is recommended until all the clients information needs have been assessed and that the hydrological and sediment trends present in the basin are understood more clearly.

RESUME

Des données portant sur les sédiments ont été prélevées à l'emplacement de la station de jaugeage hydrométrique, Humber River at Elder Mills 02HC025, pendant la période 1966 à 1986.

Les objectifs de la station étaient premièrement de complementer des études biologiques portant sur les frayères et secondement de recueillir des données de base pour la construction possible d'un reservoir dans le bassin.

Les données hydrométriques, de sédiments en suspension, de matériaux du lit et de solides dissouts, sont exprimées de façons tabulaire, graphique et statistique.

Depuis 1972, une tendance vers des débits plus élevés a été observée résultant probablement de conditions climatiques plus favorables. Cette tendance a aussi été noté à d'autres bassins du sud ontarien.

La charge totale des sédiments en suspension transportée durant la période 1967-1985 fut de 4,9 x 10^5 tonnes. La charge moyenne annuelle est de 2,5 x 10^3 tonnes. Plus de 75% de la charge annuelle est transportée durant les mois de janvier à mai. Entre 1974 et 1980 une période de charge maximale a été observée. Une augmentation de la charge transportée par les débits des mois de juin à décembre a été noté depuis 1975. La cause de ces tendances demeure indéterminée.

Les données portant sur la dimension des particules de sédiments en suspension indiquent que le matériel transporté se compose en moyenne de 21% argile, 59% limon et 20% sables. La concentration de solides dissouts démontre une relation inverse avec le débit. La charge de solides dissouts se situe dans les environs de 23 x 10^3 tonnes. Une charge combinée annuelle (sédiments en suspension et solides dissouts) est estimée à 45 x 10^3 tonnes.

Il est recommandé que le programme de relevées actuel continu jusqu'à ce que les besoins des clients soient déterminés et que les tendances hydrologiques et de sédiments en suspension dans le bassin soient mieux comprises.

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1. INTRODUCTION

1.1 Historical Perspective

The Humber River at Elder Mills station is the only presently (1987) cost-shared station in the Ontario Region. It was established in 1966 on a request by the Ontario Ministry of Natural Resources to complement biological studies on fish spawning habitats. Later, a second request for continued data collection at the site was put forward by the Metro Toronto and Area Conservation Authority for the purpose of acquiring more streamflow and sediment information for possible reservoir construction in the basin.

During the entire period (1966-1986) sample collection was conducted from January to December except in the initial year when sampling began in March. The twenty years of data collection constitute one of the longest data bases on fluvial sediment transport in Ontario.

The fisheries and reservoir applications require a range of data and information. Water Survey of Canada's sediment monitoring program can partially meet these needs as follows:

Data	Fisheries	Reservoir
- time distribution, mean and ranges of concentrations	✓	✓
- range and mean of suspended sediment particle size	✓	✓
- bed material particle size distribution	✓	✓
- bedload transport rates and particle size distribution	N/A	✓
- loadings of suspended and bedload	N/A	✓

While sampling has focused mainly on suspended sediment concentrations, numerous particle size analyses of bed material and suspended sediment have been conducted throughout the entire period. There has also been many cross-sectional measurements of concentration and particle size variations. However no bedload data have been obtained.

1.2 Purpose and Objectives

1.2.1 Purpose

As part of an assessment of long-term sediment station records, the Sediment Survey Section of the Water Resources Branch commissioned a study of the suspended sediment record on the Humber River at Elder Mills to assess the information content of the existing data base and to provide guidance for future data collection at this site.

1.2.2 Objectives

The objectives of this study are:

1. To summarize the existing suspended sediment concentration, load and yield data at the station and to characterize the suspended sediment regime.
2. To assess the temporal representativity of the data records.
3. To assess other relevant morphologic and sediment data.
4. To assess the adequacy of the existing sediment data base for possible engineering, environmental and water quality applications and make recommendations for future program activities.
5. To link the characteristics of the suspended sediment transport to upstream conditions.

1.3 Report Format

This report follows the general format of sediment station analysis reports, issued by the Sediment Survey Section, Water Resources Branch, Environment Canada (Day and Spitzer, 1985a; 1985b; Northwest Hydraulic Consultants Ltd., 1986).

2. BACKGROUND

2.1 Basin Description

The Humber River basin upstream of the Elder Mills station consists of the Humber River, Cold Creek, Centreville Creek and Coffey Creek and drains approximately 303 km^2. The location and configuration of the basin in shown in Figure 1. The river rises in the Albion Hills, about seven kilometres east of Orangeville, Ontario and flows in a southeasterly direction. Mean stream gradients greater than 1 percent in the Albion Hills area decrease to about 0.25 percent south of Cedar Mills (J. F. MacLaren Ltd., 1979).

Physiographically, the basin is divided into two major regions. The northern part (Albion Hills) consists of the Oak Ridges moraine. This hummocky terrain leads to a poor definition of the drainage paths with many depressed zones showing no apparent connection to the mainstream. The sandy soils (soil group AB) of these glacial deposits tend to lower annual flows by reducing the runoff response of the watershed. This is compounded by the many small impoundments on tributary streams and by the many wooded areas upstream of Cedar Mills. The second section, south of the town of Bolton, Ontario consists of a glacial till plain in which the Humber River has cut a broad, meandering valley (Hindley *et al*. 1986).

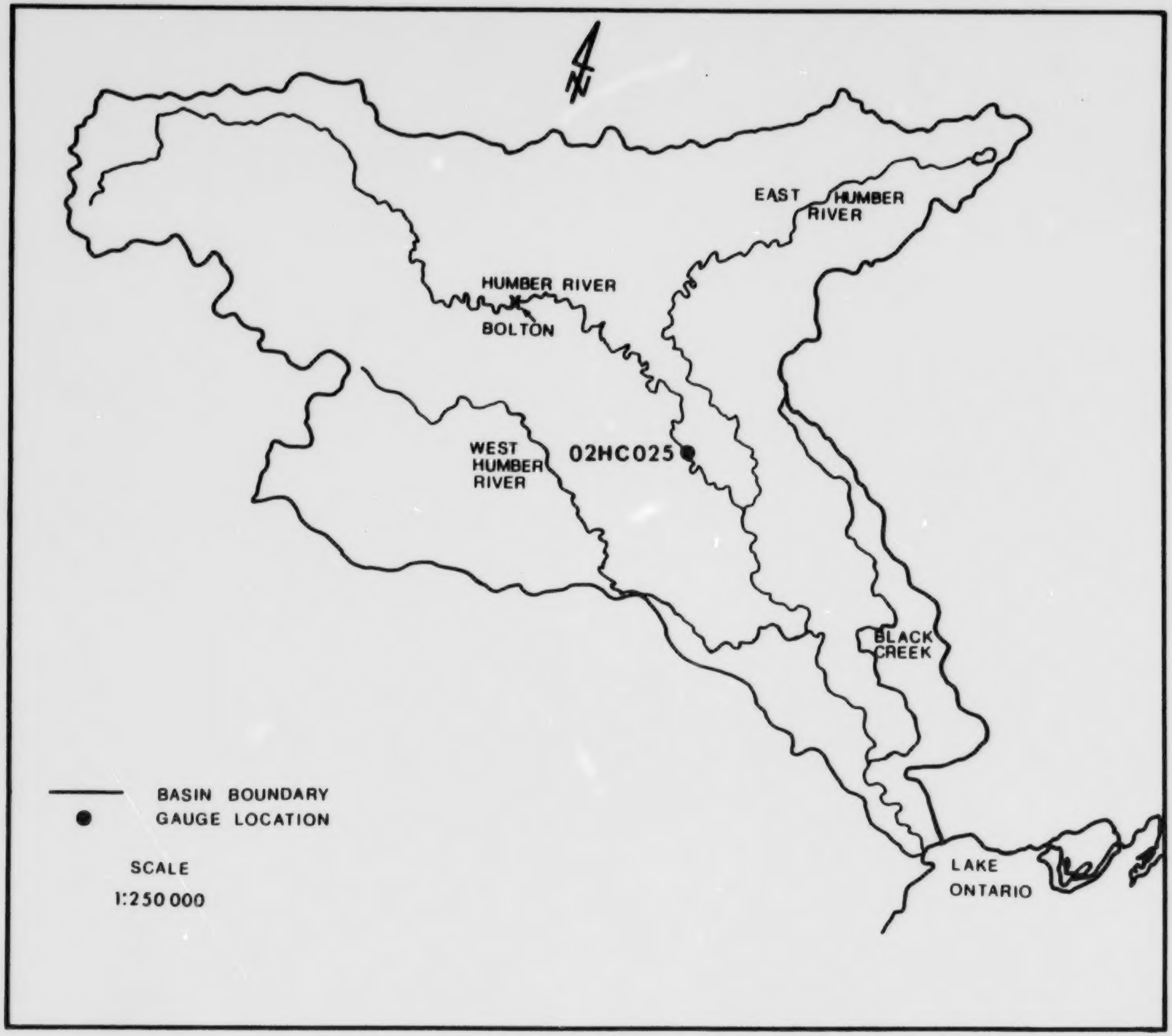

Figure 1 Humber River Basin Map

Land use in the basin is predominantly rural. In the Albion Hills area, pasture land predominants (approximately 50% of the area) due the hummocky terrain which lends to livestock grazing better than crop farming. South of the Oak Ridges moraine, a shift from pasture land to agricultural land occurs due to the gentle sloping till plain which is better suited for crop farming. The proportion of forested land is mostly consistent throughout the basin at about 15 percent. The only major urban zone is the town of Bolton (Hindley et al. 1986).

2.2 Site Characteristics

The station is located at 43°48'34"N 79°37'38"W (Figure 1). Figure 2 is a sketch map of the gauge location in respect to major roads and towns. In the general area of the Elder Mills station, the river meanders irregularly with interspersed straight reaches. The station is located in a straight reach, about 200 metres in length (100 m upstream and downstream of the Rutherford Road bridge) (Figure 3). The stream gradient in this area is approximately 0.25 percent (J.F. MacLaren Ltd., 1979).

Deposition and erosion are evident in the vicinity of the site. Immediately upstream of the bridge, a vegetated bar divides the flow (Figure 4). Visual observations showed that it is mainly composed of sand and gravel. Along the reach, streambank downcutting (Figure 5) reflects the erosional force of the Humber River on material consisting mainly of silts and clays.

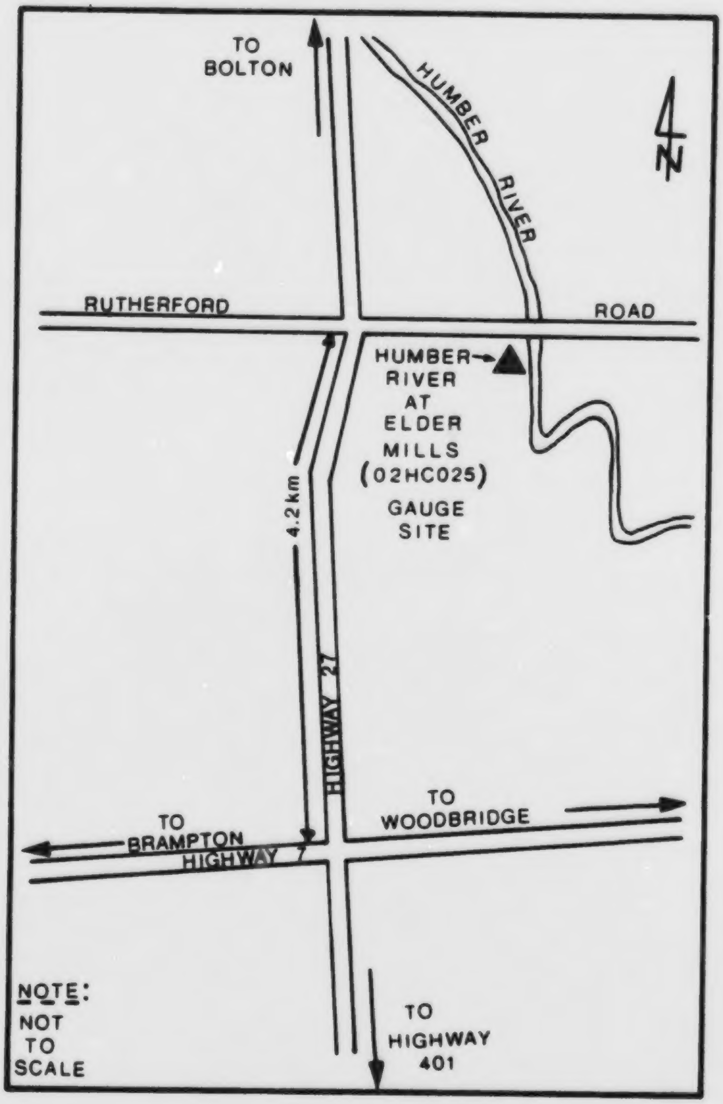

Figure 2 Gauge Location Sketch Map - Humber River at Elder Mills 02HC025

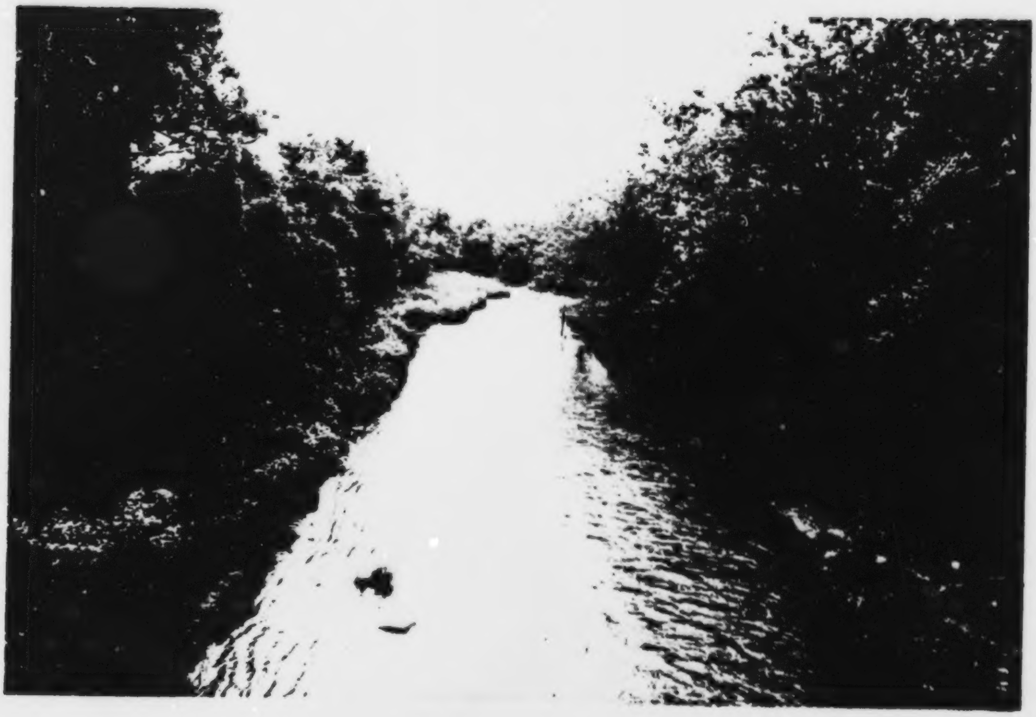

Figure 3 Humber River Downstream of Gauge Site

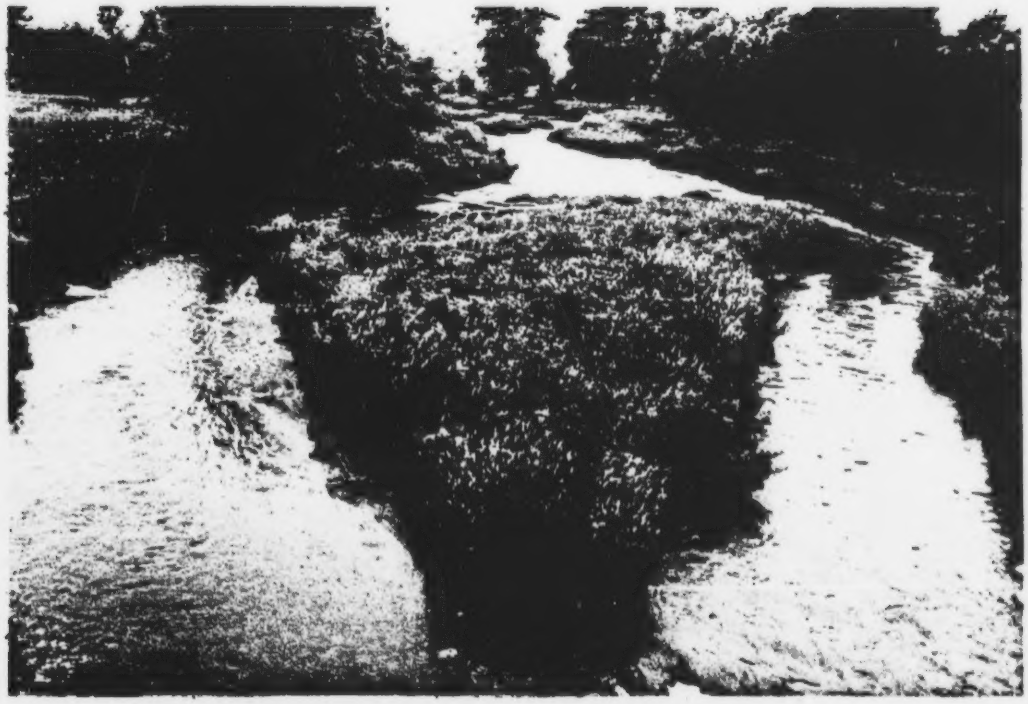

Figure 4 Vegetated Bar on Upstream Side of Bridge

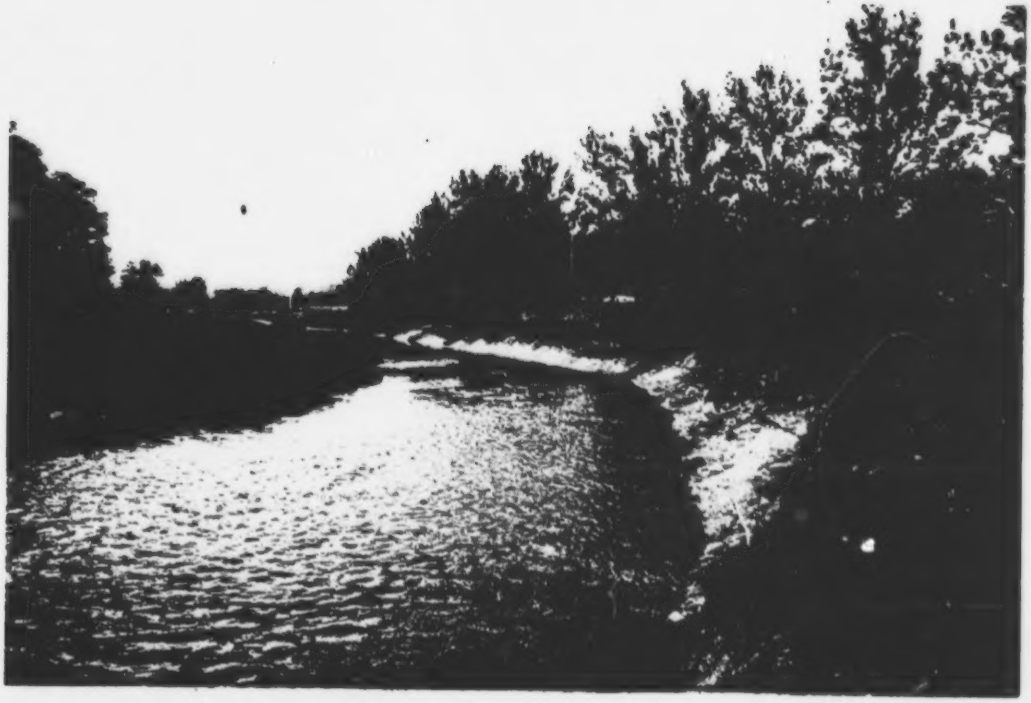

Figure 5 Streambank Erosion Upstream of Gauge Site

The cross-sectional variations derived from stream discharge measurements performed over the years are depicted in Figure 6. These cross-sections surveyed in 1968, 1970, 1972, 1974 and 1982 are a selected few of the many available. Cross-sectional widths ranged from approximately 13 to 35 metres with a maximum depth of about 2.5 metres.

2.3 Station History

The hydrometric program at this site began in 1957 as a manual station and became automated in October, 1962. At this time, a Leupold and Stevens A-35 water level recording gauge was installed in a brick gauge house located on the right bank below the downstream side of the bridge. The high water metering section was established on the upstream side of the bridge in order to observe floating debris or ice while low water metering was performed 40 metres downstream of the gauge due to the more consistent velocities and depths within the cross-section. Table 1 lists the stage/discharge curves established from 1962 to 1985. Stage/discharge curves for the sediment collection period (1967-1985) are plotted in Figure 7.

On March 1, 1966 the sediment sampling program was started. A USDH-59 sampler was installed and housed on the downstream side of the bridge in a wooden shelter (Figure 8A).

In March 1971 a telemark was installed in the gauge house. The water level scale was converted to metric measures on June 7, 1978.

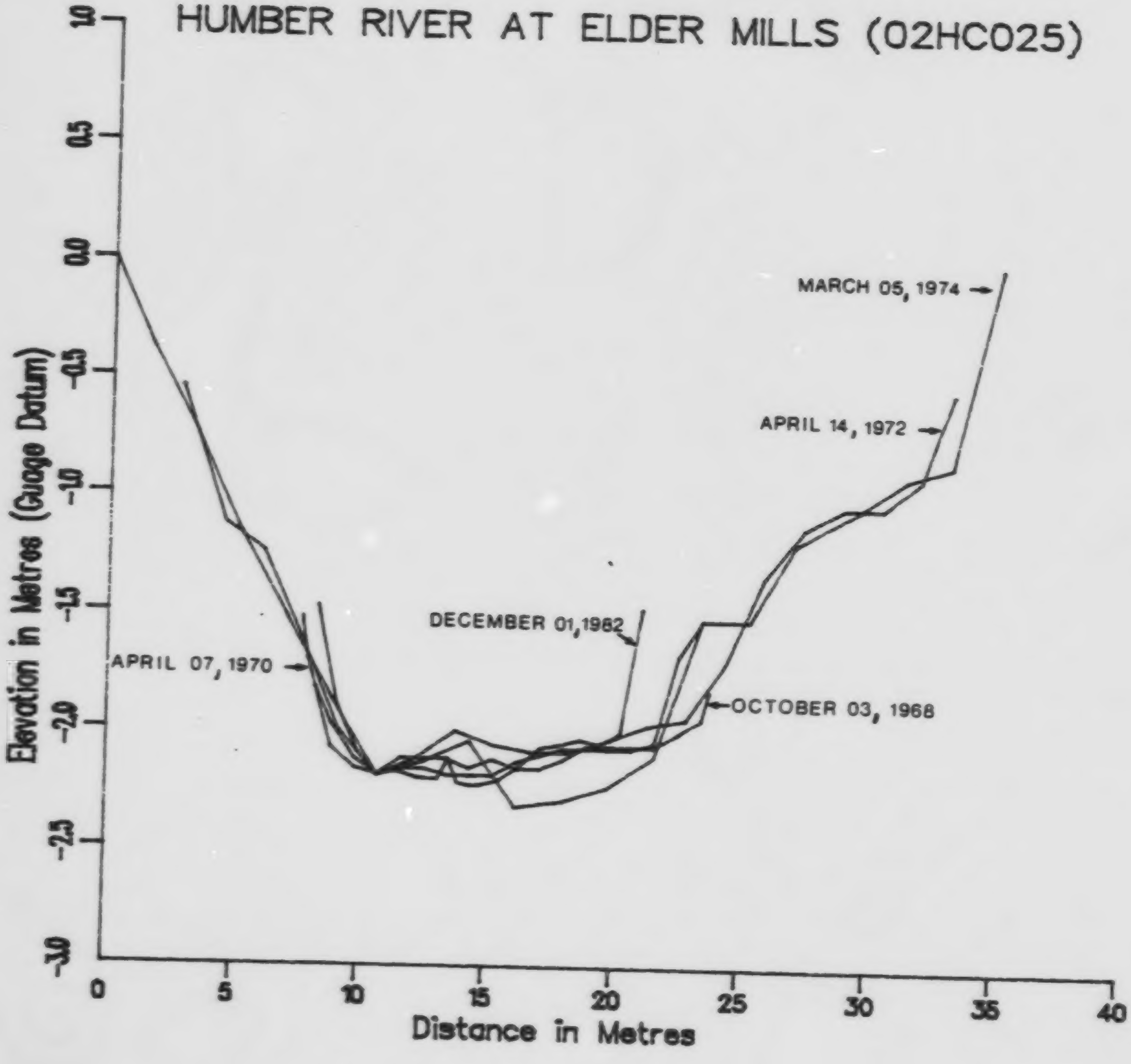

Figure 6 Composite Plot of Cross-Sectional Variations

TABLE 1

STAGE VERSUS DISCHARGE CURVES

HUMBER RIVER AT ELDER MILLS 02HC025
1967-1985

1. September 27, 1962 to September 30, 1963
2. October 01, 1963 to September 30, 1965
3. October 01, 1966 to March 08, 1966
4. March 09, 1966 to March 26, 1967
5. March 27, 1967 to December 31, 1968
6. January 1, 1969 to March 22, 1970
7. March 23, 1970 to December 31, 1970
8. January 1, 1971 to April 9, 1972
9. April 10, 1972 to April 4, 1974
10. April 5, 1974 to March 5, 1977
11. March 6, 1977 to December 31, 1979
12. January 1, 1980 to December 31, 1982
13. January 1, 1983 to December 31, 1983
14. January 1, 1984 to December 31, 1984
15. January 1, 1985 to December 31, 1985

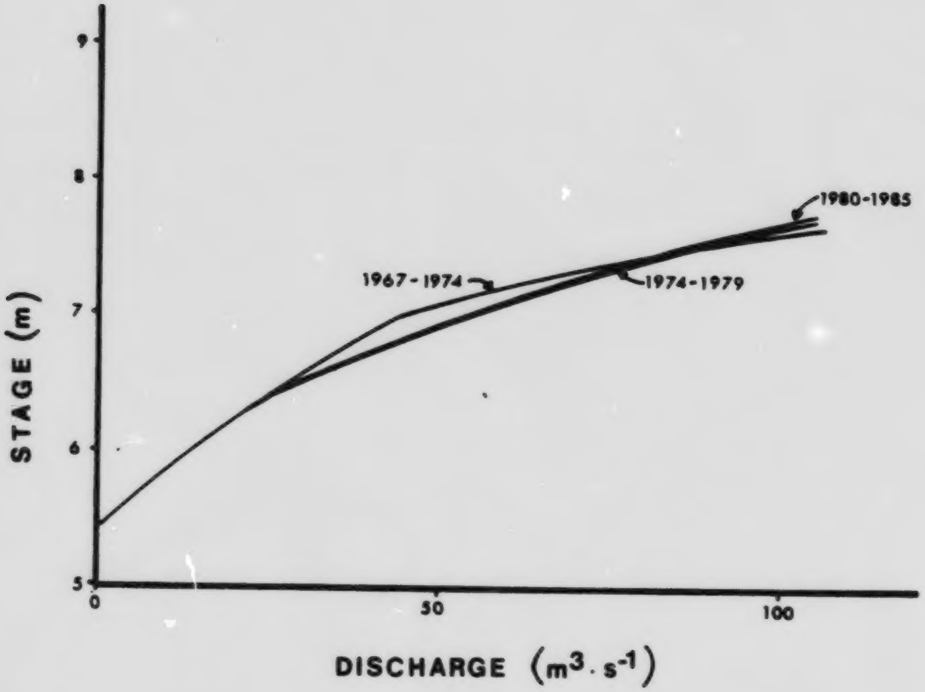

Figure 7 Stage/Discharge Curves (1967-1985)

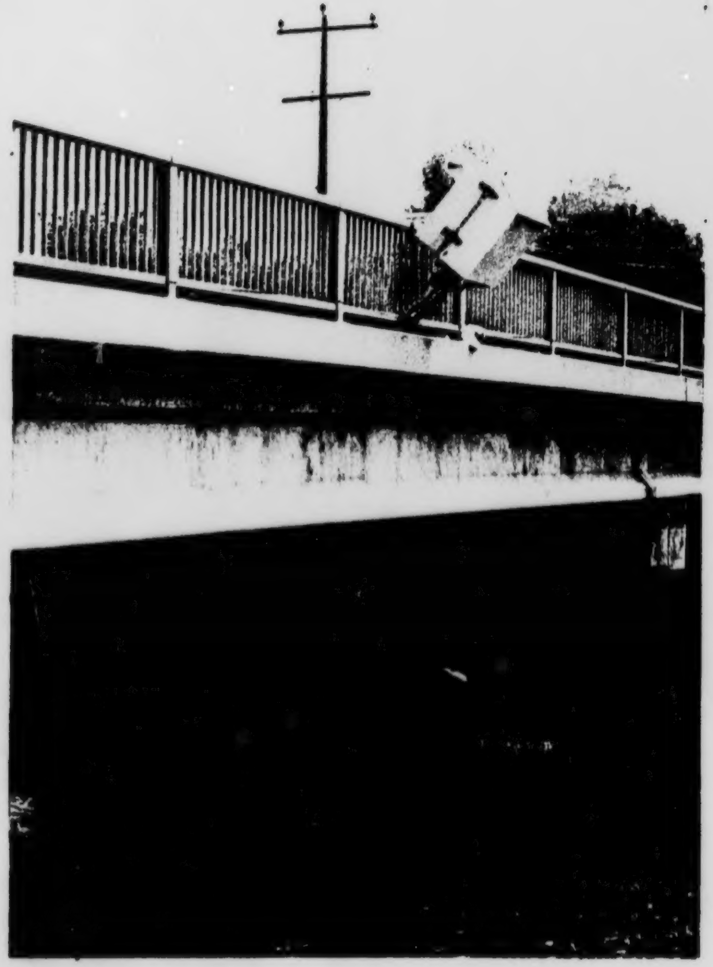

Figure 8A Sediment Sampler Location (Downstream Side of Bridge)

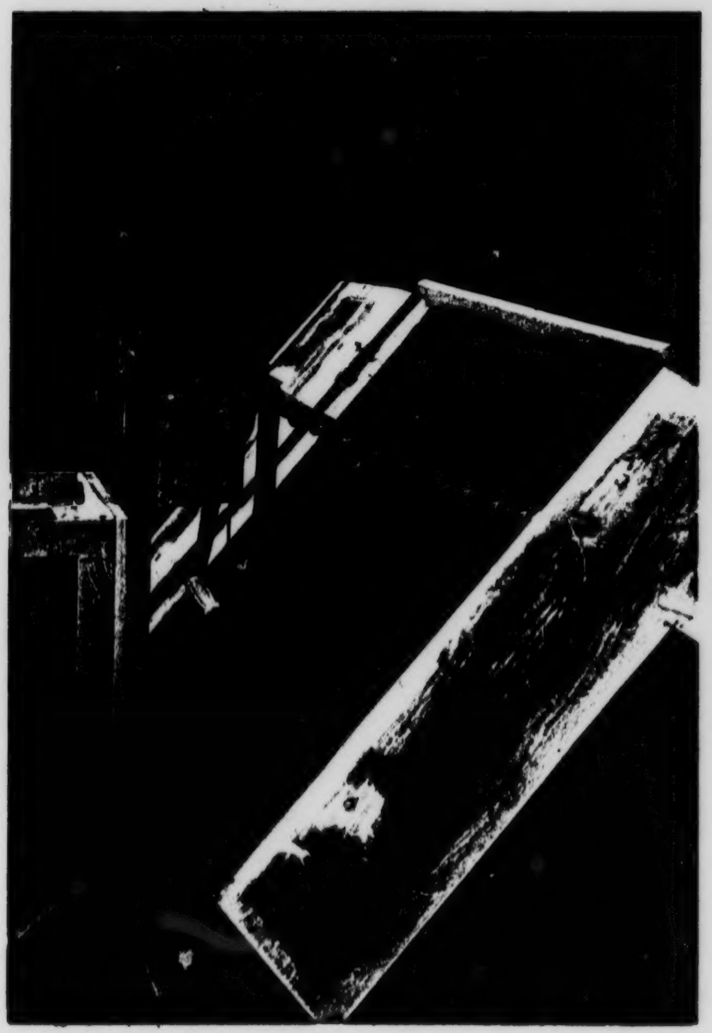

Figure 8B USDH-59 Sampler in Housing (Humber River at Elder Mills, 02HC025)

3. DATA COLLECTION

3.1 Water Survey of Canada Sediment Data Set

The Humber River at Elder Mills sediment data set consists of the following:

1. Suspended sediment concentrations and particle size analyses from depth-integrated samples
2. Suspended sediment loads.
3. Particle size analyses of bed material samples.
4. Dissolved solids concentrations.
5. Water temperatures at time of sampling.

A summary of Water Survey of Canada data collection and processing procedures is presented in Appendix A (copied directly from the annual sediment data publications) (Environment Canada, 1987). Examples of available data are presented in Appendix D.

3.2 Daily Concentration

The sediment sampling program began in 1966. During that year samples were collected from March to December. Sampling has been performed year-round from 1967 to 1986. Table 2 shows the total number of days per month and per year the river was sampled. The number ranges from a high of 132 in 1973 to a low of 26 in 1983 with a mean of 73.

TABLE 2

NUMBER OF SAMPLED DAYS

(monthly and annually)

YEAR	TOTAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1966	30	—		5	1	2	4	4	5	5	4	1	1
1967	45	2	2	5	0	5	8	8	3	3	3	4	2
1968	62	1	3	2	2	7	12	7	9	8	6	1	5
1969	54	3	3	11	10	5	6	4	2	3	2	4	1
1970	84	1	1	9	12	3	8	9	6	11	11	10	3
1971	91	5	2	10	22	14	13	3	7	6	6	9	11
1972	118	7	5	15	22	14	13	3	7	8	6	9	11
1973	132	14	12	24	16	15	10	6	5	5	9	9	7
1974	91	7	7	11	12	11	7	2	5	5	6	10	8
1975	89	8	10	7	6	11	9	5	6	7	6	7	5
1976	72	5	12	13	8	6	4	6	3	6	4	2	3
1977	70	3	4	9	7	3	4	3	5	7	7	9	9
1978	89	8	3	14	23	10	1	8	5	2	5	4	6
1979	81	4	1	13	5	6	6	8	8	10	9	5	6
1980	62	4	2	9	14	5	2	5	3	2	6	7	3
1981	35	1	1	2	1	3	6	3	3	5	6	3	1
1982	63	2	1	4	4	12	9	5	5	8	6	5	2
1983	26	2	2	3	2	3	3	2	1	3	1	4	0
1984	49	2	2	1	4	4	2	3	3	1	4	11	12
1985	93	10	10	13	11	3	5	6	6	5	6	10	8
1986	77	8	5	13	8	9	4	3	7	7	5	3	5
TOTAL	1513	97	88	193	181	145	130	107	106	114	114	118	104
% of Grand Total													
	100	6	6	12	12	10	9	7	7	8	8	8	7

The distribution of the samples taken throughout the flow range is illustrated in Figure 9. The flow duration curve and the sediment sampling bar graph from 1967 to 1985 indicate that sampling has covered the entire range of flow and that the majority (55%) of the samples have been taken during flows that occurred less than 40% of the time (i.e. spring freshet high flows).

Suspended sediment sampling consists of taking two depth integrated samples using either a USDH-48, a USDH-59 or a USD-49 sampler (Figure 8B). The sampling is conducted at a permanent vertical which is the most representative of the cross-sectional average suspended sediment concentration. At Elder Mills, this vertical is presently located at 17.6 m from the right bank. Multiple vertical sampling was performed several times a year (1966-1975) in order to establish the cross-sectional variation in concentration (Table 3). This consists of sampling at five verticals, comparing their average concentration to the sample concentration at the single vertical 17.6 to give a correction factor (K-factor). This correction factor is then applied to the single vertical samples in order to make them more representative of the actual stream conditions. A perfect relationship would give a K-factor of 1.0. K-factors ranged from 0.64 to 1.49 at Elder Mills. Very high and low values tend to occur at low concentrations because variations are enhanced at these levels. Since 1976, multiple depth integrated measurements have been performed for data quality purposes only (i.e. to ensure that the single vertical is representative of the cross-section). (M.A. Cashman, personal communication).

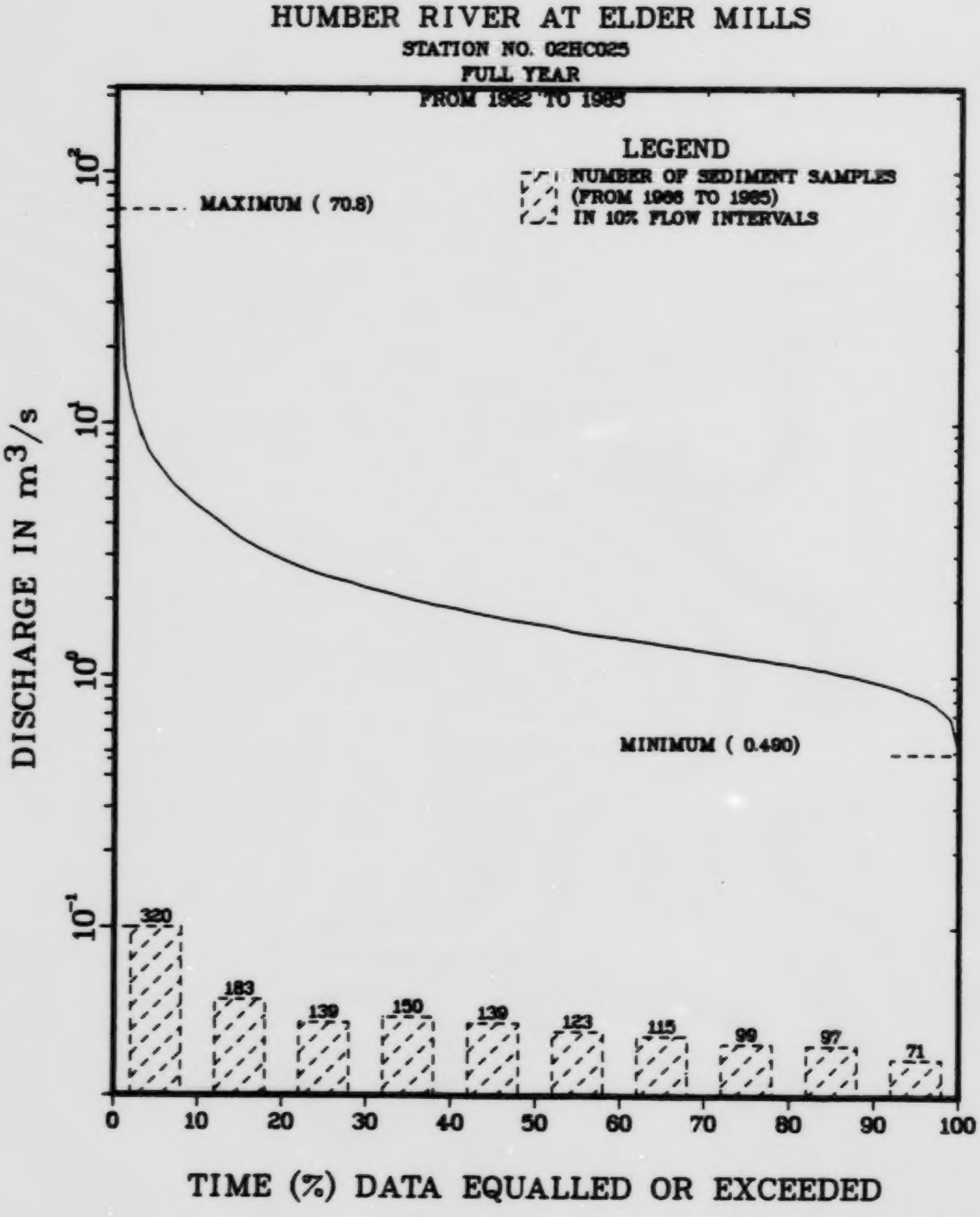

Figure 9 Discharge Duration Curve and Distribution of Sediment Samples in 10% Flow Intervals

TABLE 3

SUSPENDED SEDIMENT MULTIPLE VERTICAL MEASUREMENT SUMMARY

	DATE	K-FACTOR
1966	March 2	1.01
	May 16	1.00
	July 28	0.98
	October 14	1.31+
	November 15	1.09
	December 9	1.08
1967	March 10	1.00
	May 1	1.31+
	June 15	1.09
	July 13	1.05
	August 11	1.08
	September 18	1.07
	October 05	0.94
	November 01	1.00
	December 05	1.00
1968	January 16	0.95
	February 26	1.00
	March 20	1.01
	April 18	0.83+
	May 07	0.96
	June 03	1.00
	July 04	1.04
	August 07	0.90
	October 03	1.33+
	November 01	1.15
	December 02	1.11
1969	February 03	0.82+
	March 03	0.84+
	March 23	1.03
	April 18	0.91
	May 01	1.24+
	June 02	1.49+
	July 08	0.96
	August 06	1.01
	September 16	1.10
	October 21	0.66+
	November 06	1.20+

	DATE	K-FACTOR	
1970	January 9	1.25+	
	February 12	1.10	
	March 27	1.00	
	April 3	1.02	
	April 7	1.02	
	May 21	0.98	
	June 10	0.62+	
1971	February 26	1.30	
	March 17	1.03	
	April 2	1.04	
	April 15	1.02	
	May 12	1.00	*
	June 15	1.02	
	July 05	0.96	
	August 19	1.00	
1972	March 16	0.68+	
	March 21	0.64+	
	March 28	1.17	
	April 13	0.95	
	April 14	1.01	
	April 16	1.29+	*
	April 19	1.04	
1973	March 12	0.99	
1974	March 05	0.96	
1975	February 24	0.83	
	February 25	0.97	
	March 18	1.02	
	March 20	0.99	
	March 26	0.99	*
	April 15	1.04	
	April 24	1.01	
	May 07	1.00	
1976	March 23	0.98	

	DATE	K-FACTOR
1980	March 24	1.00
1982	December 1	0.91
1983	May 3	0.92

* Denotes periods when K-Factor was applied to the single vertical sample. In all other cases K-factor was assumed as being 1.0 (no correction applied)

+ High and Low K-Factor values are due to variations at low concentrations

3.3 Particle Size Analysis

Numerous single vertical and multiple vertical samples have been analyzed for particle size information throughout the sampling period. During the first nine years of operation (1966-1974) an average of 15 samples per year were analysed. Since 1975, the number of analyzed samples per year decreased to a mean of 4 due to regional directives. The majority of the analyzed samples had concentrations greater than 200 $mg \cdot L^{-1}$ which occurred at daily mean discharges greater than approximately 5.5 $m^3 \cdot s^{-1}$.

The stream bed material was sampled seven times during the operation of the station. A Lane sampler or a scoop was used for sample collection. Samples were collected at several verticals in the cross section and combined for particle size analysis.

3.4 Dissolved Solids

Dissolved solids concentrations have been determined at the Elder Mills station every year since the beginning of the sediment program. The total number of samples is 991. Up to 1975, the analysis was very intensive with concentrations reported for most sediment sampling days. The number of analysed samples drastically decreased in the following years due to new laboratory guidelines established by the Sediment Survey Section.

4. DATA SUMMARY AND INTERPRETATION

4.1 Streamflow

Over the 1962-1985 period 1.8 x 10^6 dam^3 of water has flowed past the gauging site. The mean annual flow for the entire period is 78.82 x 10^3 dam^3 with a standard error of the estimate equal to 3.7% of the mean. The maximum annual flow volume for the entire period was recorded in 1982 (1.0 x 10^5 dam^3). The recurrence interval plot of total annual flows is presented in Figure 10. Figure 11 illustrates the recurrence interval of maximum annual discharges. The maximum daily discharge of 70.0 $m^3 \cdot s^{-1}$ was registered on February 11, 1965. The maximum daily discharge value during the sediment sampling record was 50.0 $m^3 \cdot s^{-1}$ on February 15, 1984 which ranks 2nd over the entire period (1963-1984). However both these maximums occured under ice conditions therefore backwater conditions prevailed. The maximum open water flow occured on March 31, 1982 (instantaneous discharge of 52.5 $m^3 \cdot s^{-1}$) (Appendix D).

The historical trends in streamflow are shown in Figure 12. A generally increasing pattern is visible in the annual mean discharge plot (top graph). The Spearman Rank Order Correlation Coefficient Test for trend indicates that the pattern is significant at the 1% level (APPENDIX B). The bottom graph shows that from 1963 to 1971 annual mean flows were below average and that post 1972 flows were above average.

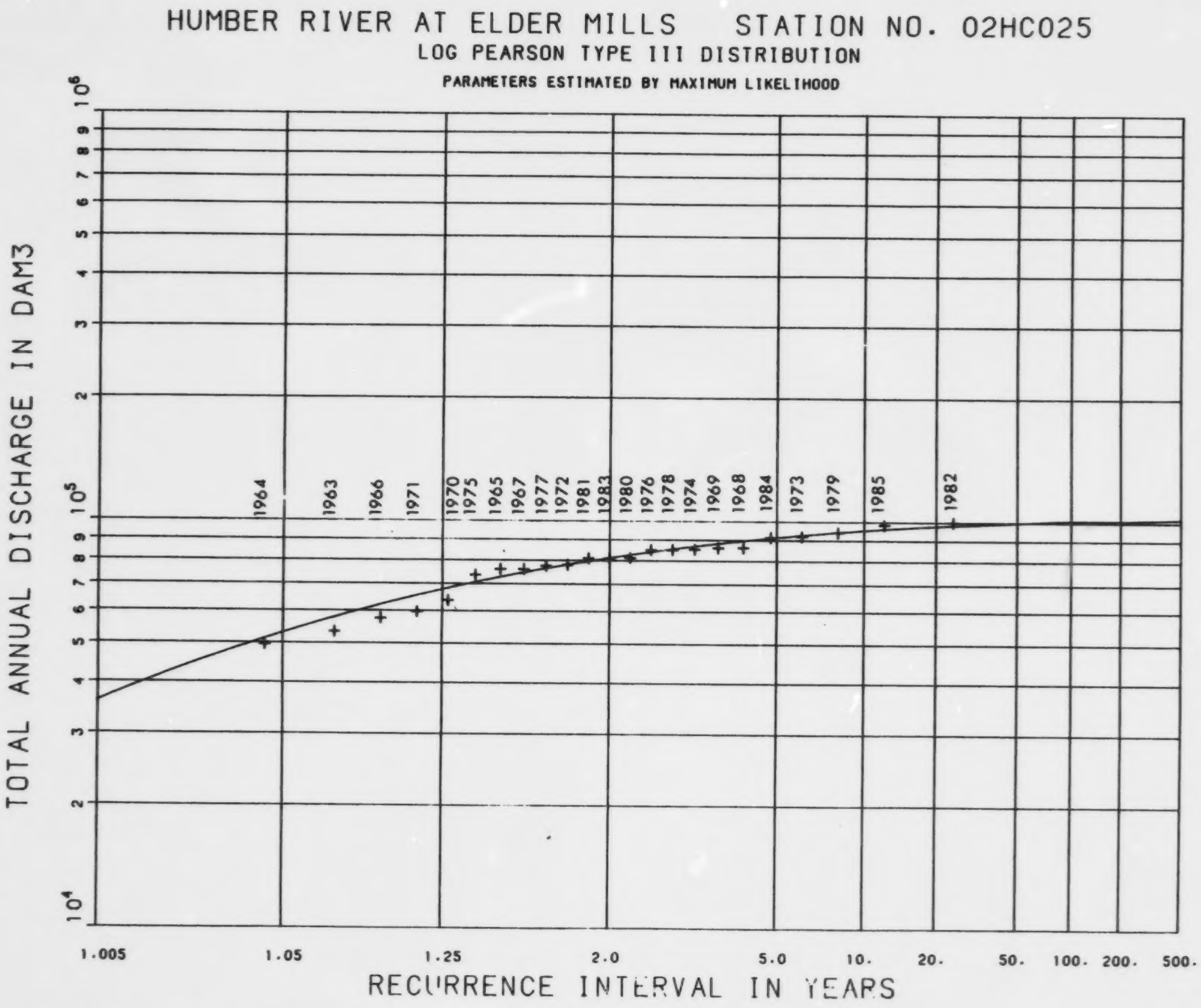

Figure 10 Recurrence Interval of Total Annual Discharge (1963-1985)

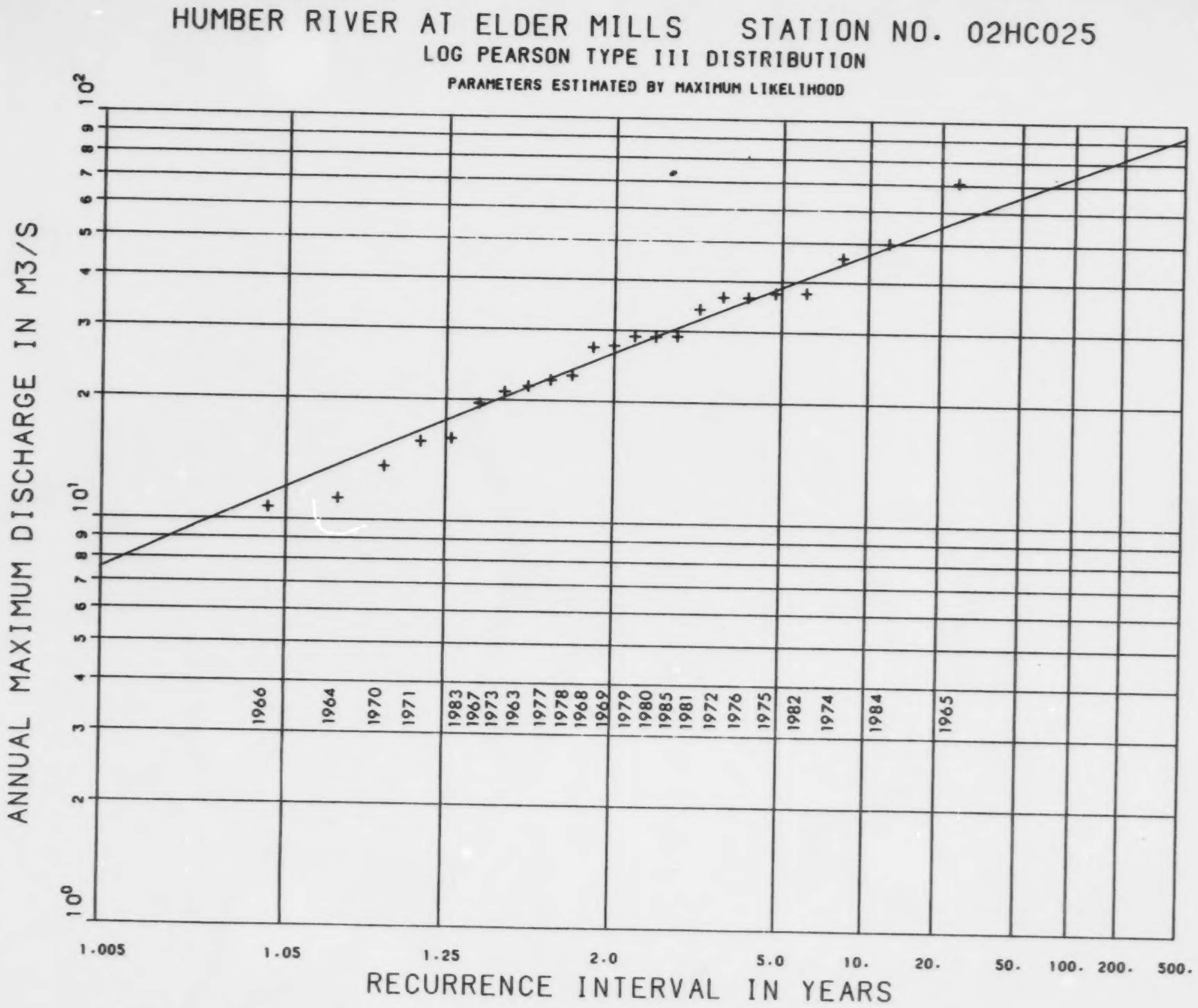

Figure 11 Recurrence Interval of Annual Maximum Discharge (1963-1985)

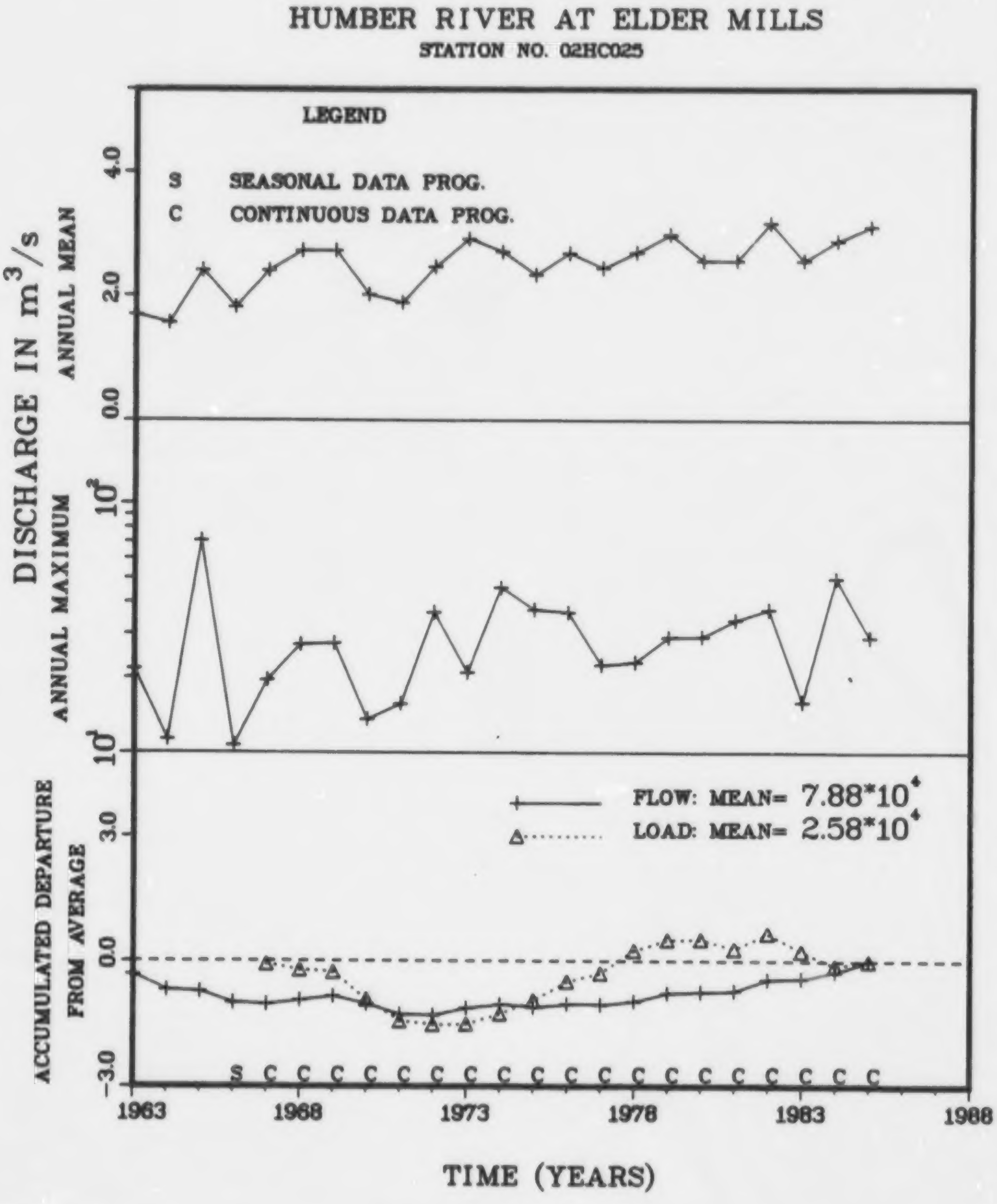

Figure 12 Historical Trend in Annual Flow and Load 1963-1985 (Flow = dam^3, Load = tonnes)

Using the Mann-Whitney sample test for homogeneity, results show that the split in the data at 1972 is significant at the 1% level (APPENDIX B). Annual total flows averaged 67.59 x 10^3 dam^3 (standard deviation = 13.91 x 10^3 dam^3) from 1963 to 1971 compared to 86.03 x 10^3 dam^3 (standard deviation = 8.07 x 10^3 dam^3) during the 1972-1985 period. This represents approximately a 27% increase. The annual maximum discharges (center plot) also reflect this split as maximums averaged 24.23 $m^3 \cdot s^{-1}$ (standard deviation = 24.23) from 1963 to 1971 while they increased to an average of 32.19 $m^3 \cdot s^{-1}$ (standard deviation = 9.94) over the rest of the period. This trend seems to be due to changing climatic conditions (i.e. increase in precipitation). A similar trend was observed by Smith (1987) at the Big Creek near Walsingham station. This author states that an increase in precipitation in the 1970's and 1980's is responsible for this trend. In addition, he also indicated that a 1982 Ontario Ministry of the Environment study of discharge and precipitation at five hydrometric and one precipitation stations in Southwestern Ontario showed that flows in the 1970's were higher than those of the 1960's (Eddy, 1982).

The daily flow regime (1962-1985) at Elder Mills is illustrated in Figure 13. The plot shows that peak discharges occur in the February-April period. This corresponds to the spring freshet (snowmelt) in the basin. During the remainder of the year, occasional peaks are direct responses to climatic events (i.e. precipitation events and occasional winter melt events).

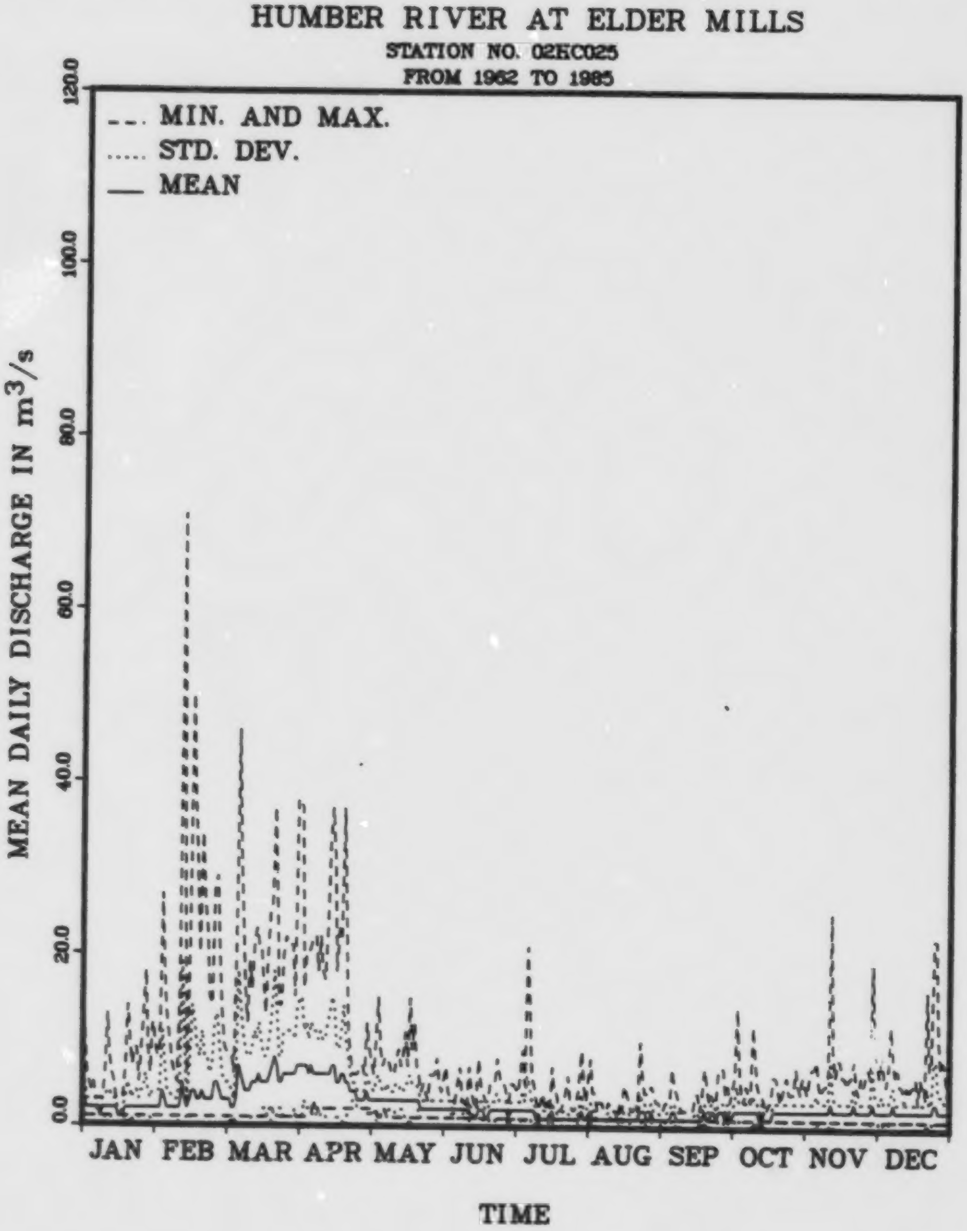

Figure 13 Annual Hydrograph and Daily Extremes

Figure 14 illustrates the distribution of the mean monthly total discharge (1962-1985). Results show that approximately one third of the total flow occurs during March and April and that about 45% of the annual total flows through in the February to May period.

The importance of short duration flow events are depicted in Figure 15. The plot shows the proportion of the total discharge flows during the best 1% (4 days) and 10% (36 days) of the year. The maximum 4-day discharge of 120 $m^3 \cdot s^{-1}$ (13.7%) occurred in 1965 (February 10-13) while the best 36-day discharge of 342 $m^3 \cdot s^{-1}$ (37.8%) occurred during the March 18 to April 22, 1972 period.

4.2 Annual Suspended Sediment Transport Regime

4.2.1 Concentrations

Suspended sediment concentrations have been measured on a continuous basis since 1966. The mean annual suspended sediment concentration is 113 $mg \cdot L^{-1}$ with a standard deviation of 35 $mg \cdot L^{-1}$. Annual mean concentrations ranged from a minimum of 74 $mg \cdot L^{-1}$ in 1981 to a maximum of 188 $mg \cdot L^{-1}$ in 1982. The suspended sediment concentration duration curve (Figure 16) demonstrates the total range throughout the sampling period with a maximum of 4 130 and a minimum of 1.00 $mg \cdot L^{-1}$. The graph also shows the percentage of times the various concentrations were equalled or exceeded.

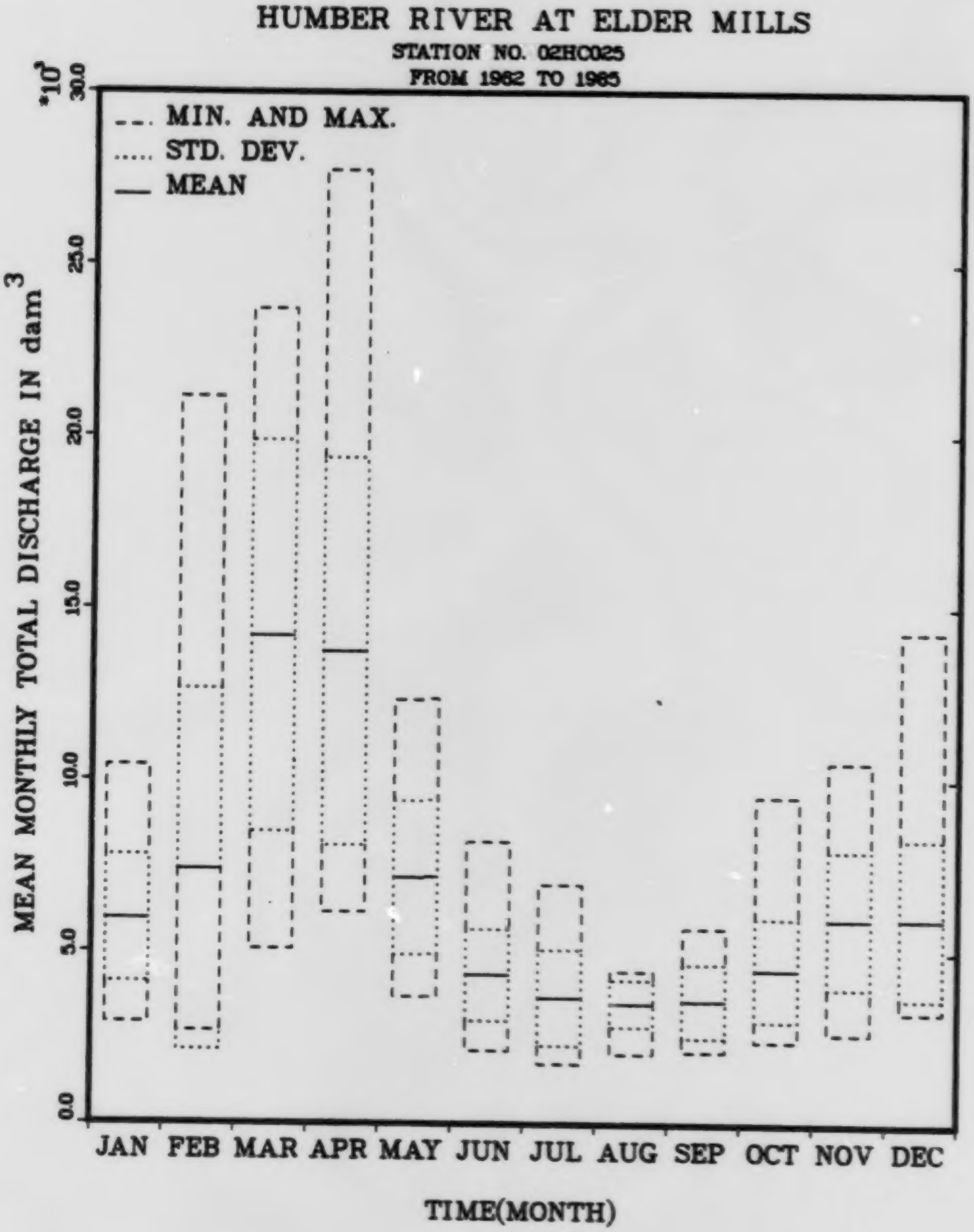

Figure 14 Mean Monthly Flow Regime

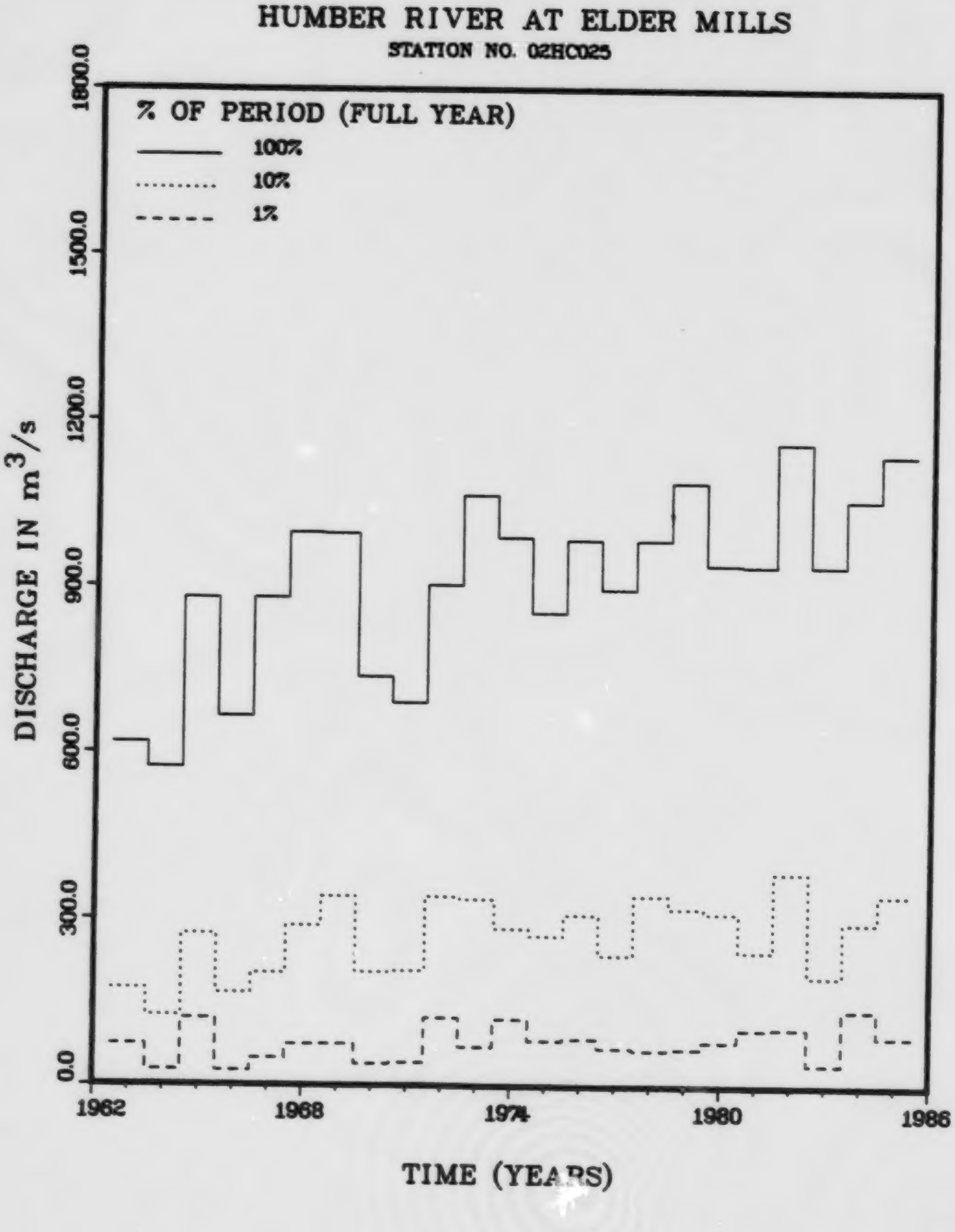

Figure 15 Percentage of Annual Discharge Flowing During the Best 4 (1%) and 36(10%) Consecutive Days

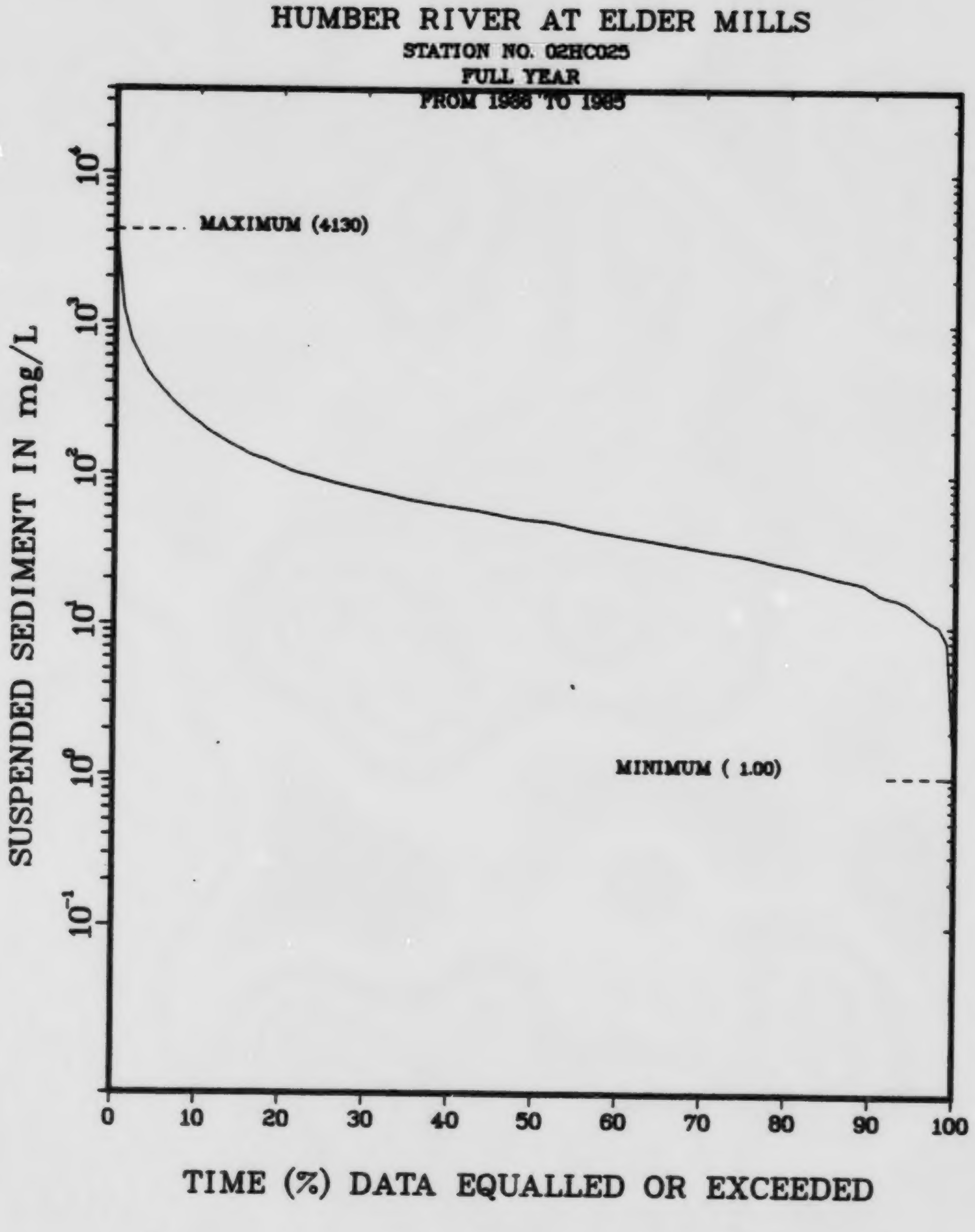

Figure 16 Suspended Sediment Concentration Duration Curve

4.2.2 Loads

A total load of 4.9×10^5 tonnes of suspended sediment has been transported by the Humber River over the 1967-1985 period. The mean annual load for the entire period is 25.8×10^3 tonnes with a standard error of the estimate of 7.5%. Annual loads have fluctuated from 8.7×10^3 tonnes in 1970 to 39.9×10^3 tonnes in 1978 which represents a factor of over 7 (Figure 17) while annual maximum daily loads have fluctuated by a factor of nearly 10 (Figure 18). Figure 19A shows the variations of annual load and annual flow over the entire period of record. The variation in the ratio of annual load to annual flow appears in Figure 19B. This averages to $0.308\ t \cdot dam^{-3}$ or $308\ mg \cdot L^{-1}$. While annual flow follows an increasing trend throughout the period of record, the annual load shows a distinct peak in the 1974 to 1980 period with lower load periods preceeding and following. The distinctiveness of the three periods in the annual series is further demonstrated in Figure 20 where a rating plot of annual flow and load is presented.

Loading characteristics can also be investigated for seasonal periods. For example, the annual variations of flow and suspended sediment load separated into January to May and June to December periods are shown in Figure 21A and 21B respectively. These periods roughly represent the periods where runoff is generated by snowmelt and rainfall, and only rainfall.

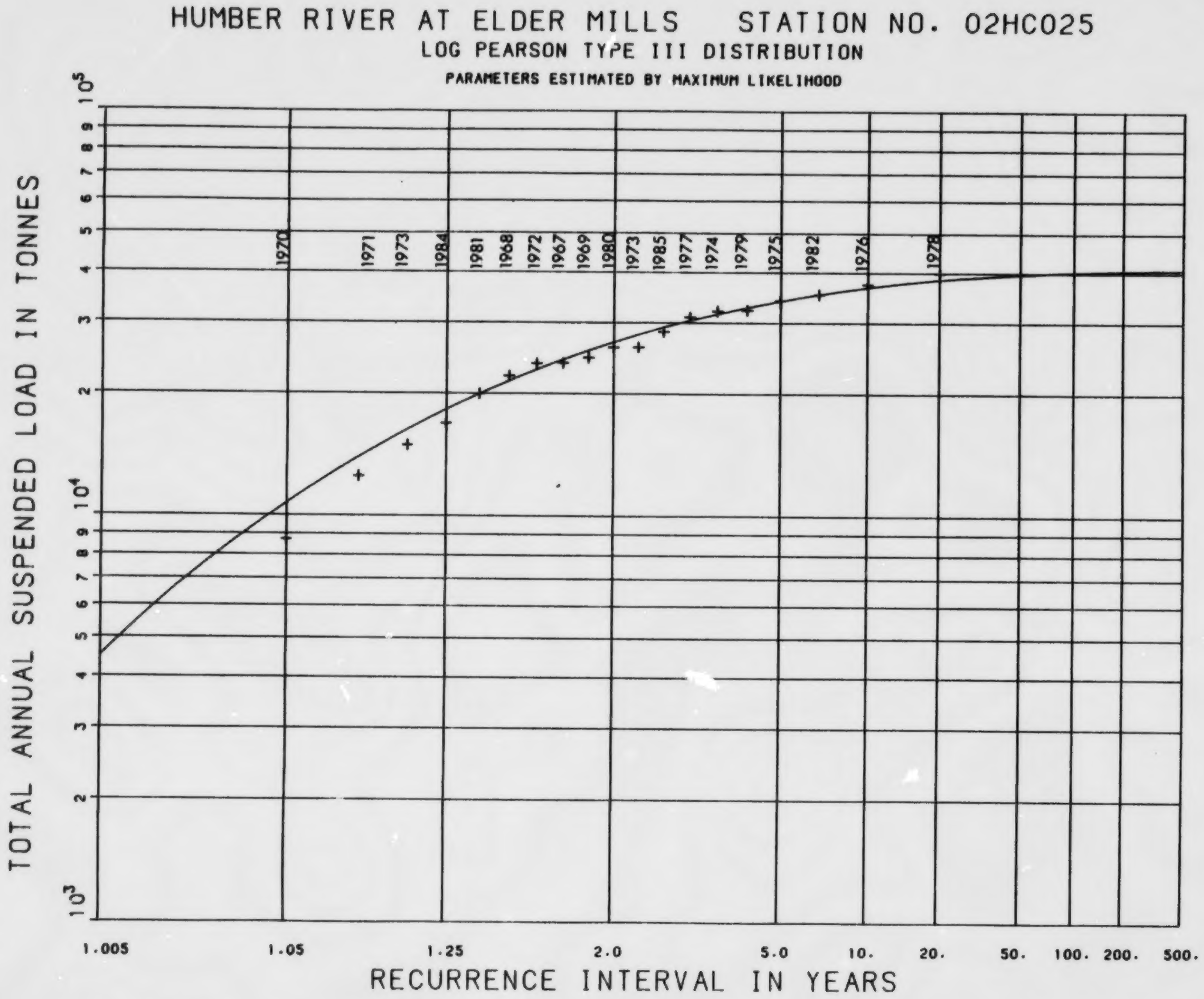

Figure 17 Recurrence Interval of Total Annual Suspended Load (1967-1985)

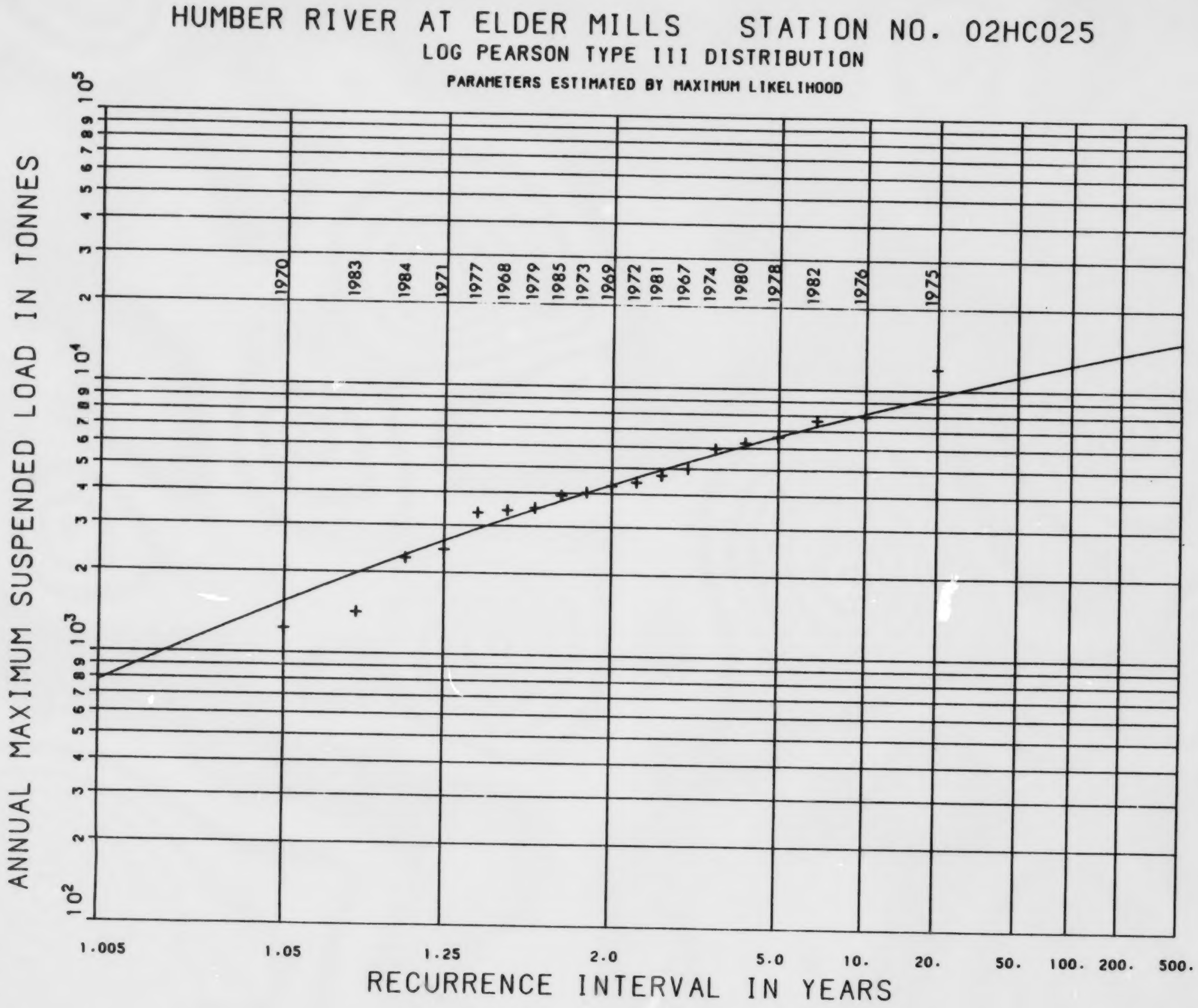

Figure 18 Recurrence Interval of Annual Maximum Suspended Sediment Load (1967-1985)

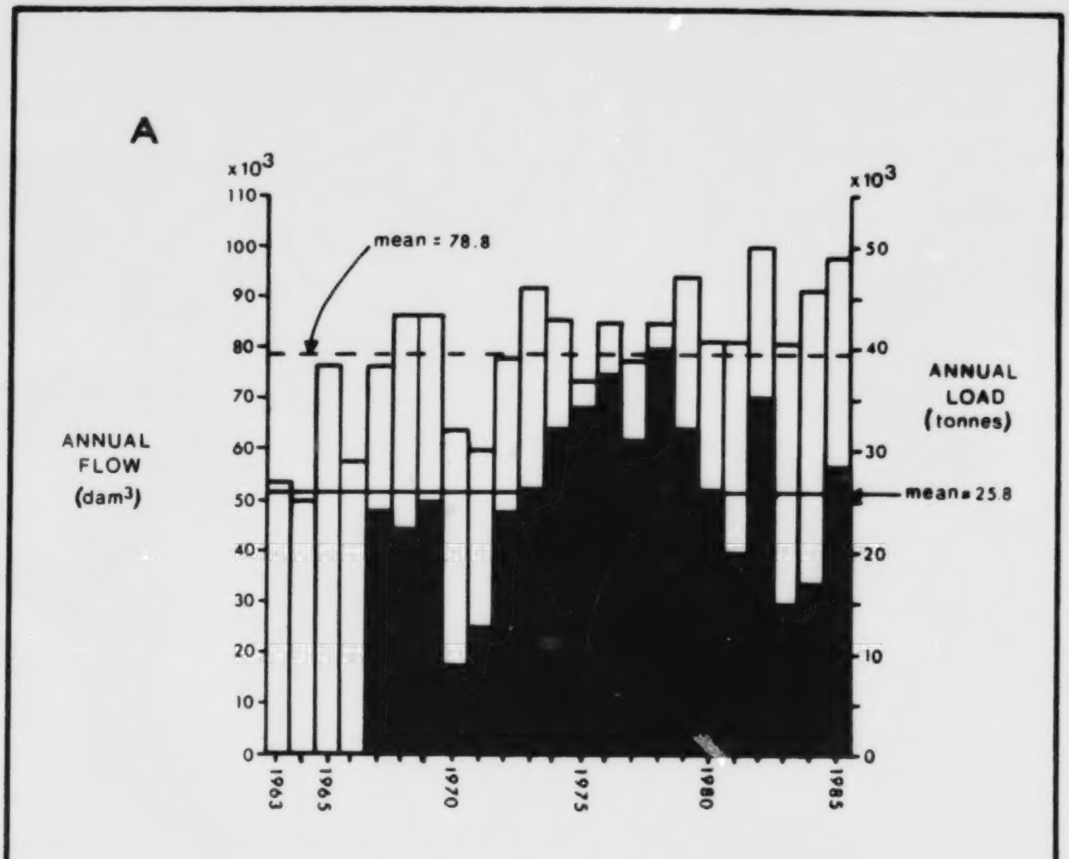

Figure 19 A) Annual Suspended Sediment Load and Annual Flow Variations (1967-1985); B) Annual Suspended Sediment Load/Annual Flow Ratio (1967-1985)

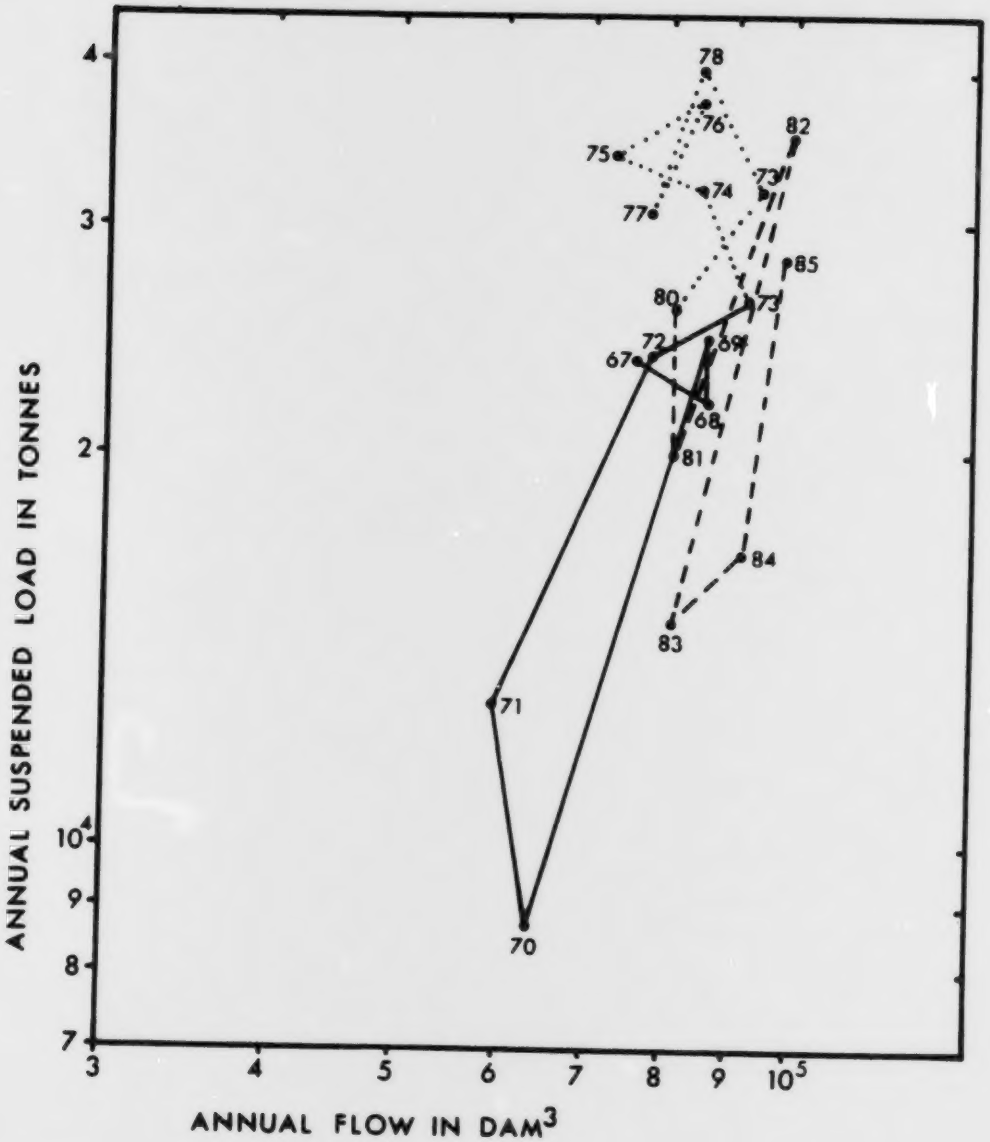

Figure 20 Rating Plot of Total Annual Suspended Load Versus Total Annual Discharge (1967-1985)

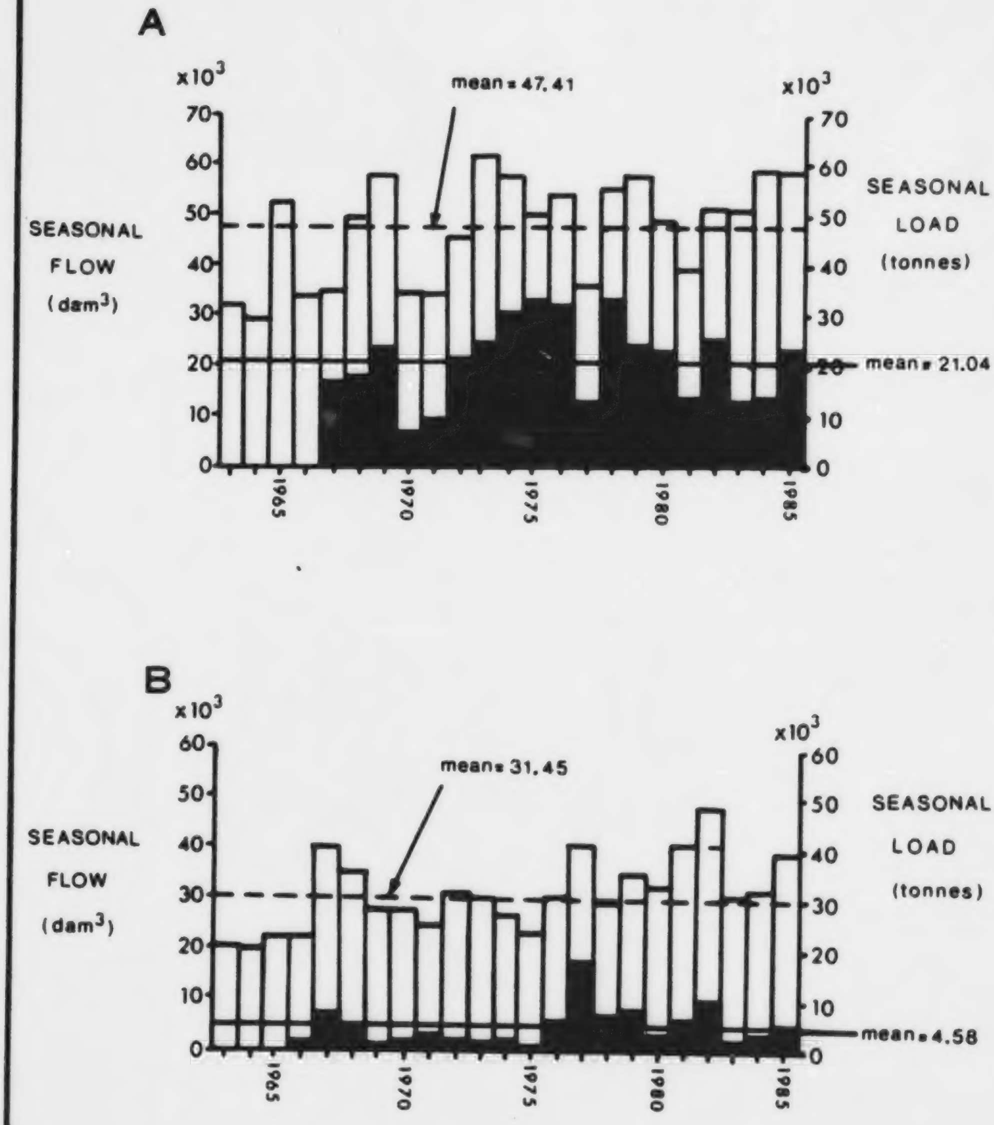

Figure 21 A) Seasonal Suspended Sediment Load and Annual Flow Variations (January-May) (1967-1985); B) Seasonal Suspended Sediment Load and Annual Flow Variations (June-December) 1966-1985)

These data are instructive. First, for the January to May period the general pattern of loadings is similar to that for the full annual period shown in Figure 19A. As most of the annual load occurs during this period this similarity is not surprising. Second, for the summer-fall period there appears to be an increase in load starting in about 1975. Third, the trend to higher flows over the period of record is visible in both seasonal periods.

The increase in summer-fall period loads is further and more dramatically demonstrated in Figure 22 where a double mass plot of cumulative load and discharge is shown. The change in pattern before and after 1975 is very clear. Similar double mass analyses for the winter-spring season and for annual data masked rather than clarified their loading patterns.

4.2.3 Average Yield

A mean annual suspended sediment yield of 85.1 $t{\cdot}km^{-2}{\cdot}a^{-1}$ with a standard deviation of 28.4 $t{\cdot}km^{-2}{\cdot}a^{-1}$ was calculated for the Humber River basin upstream of the Elder Mills station (1967-1985). This assumes that the whole basin contributes to the sediment load but as already stated many areas in the upper regions of the basin do not join the main drainage system. However, portions of the watershed contribute more sediment per unit of area than others. Figure 23 illustrates an area of high sediment yield located in the vicinity of the gauge site (0.5 km upstream).

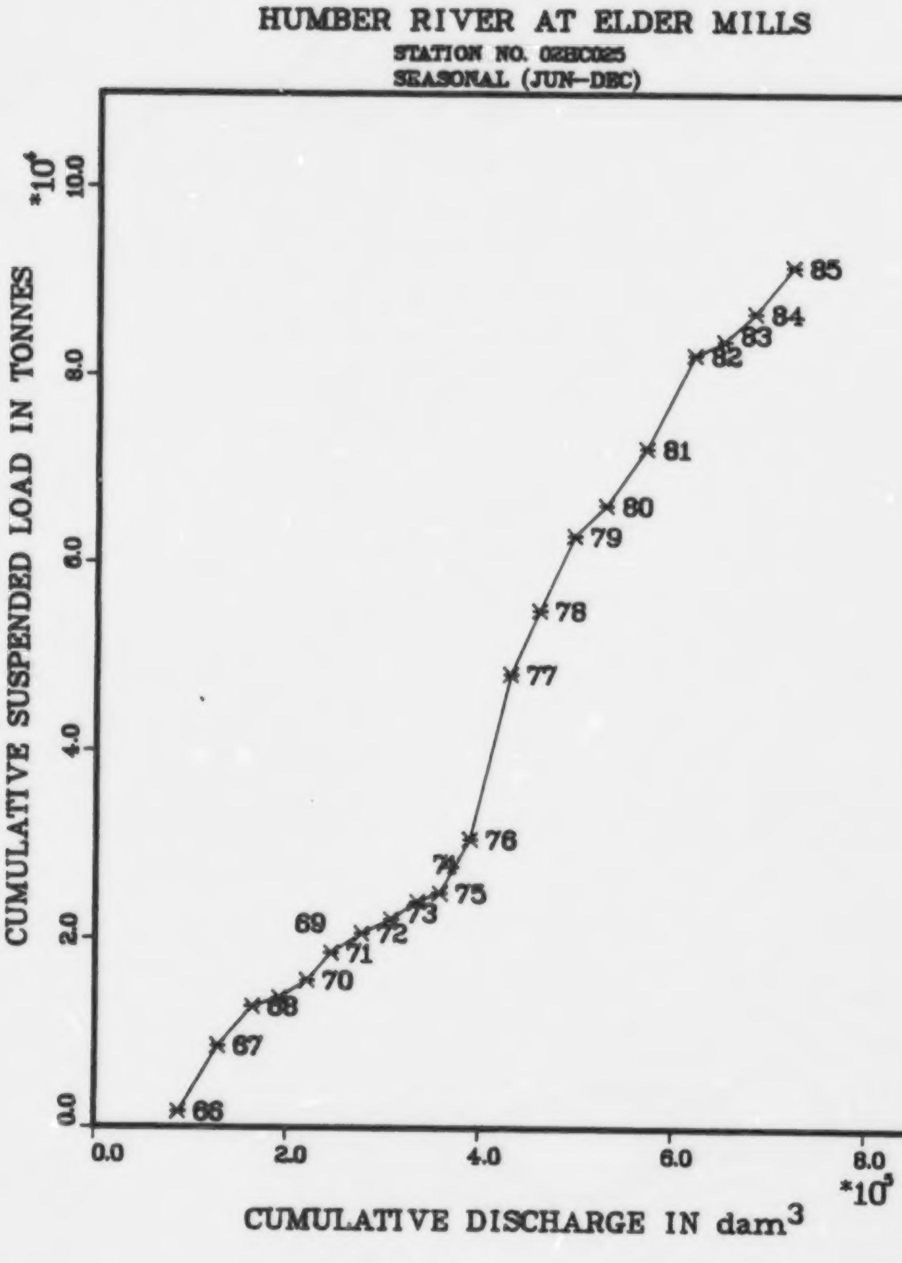

Figure 22 Cumulative Suspended Load Versus Cumulative Discharge (June-December) (1966-1985)

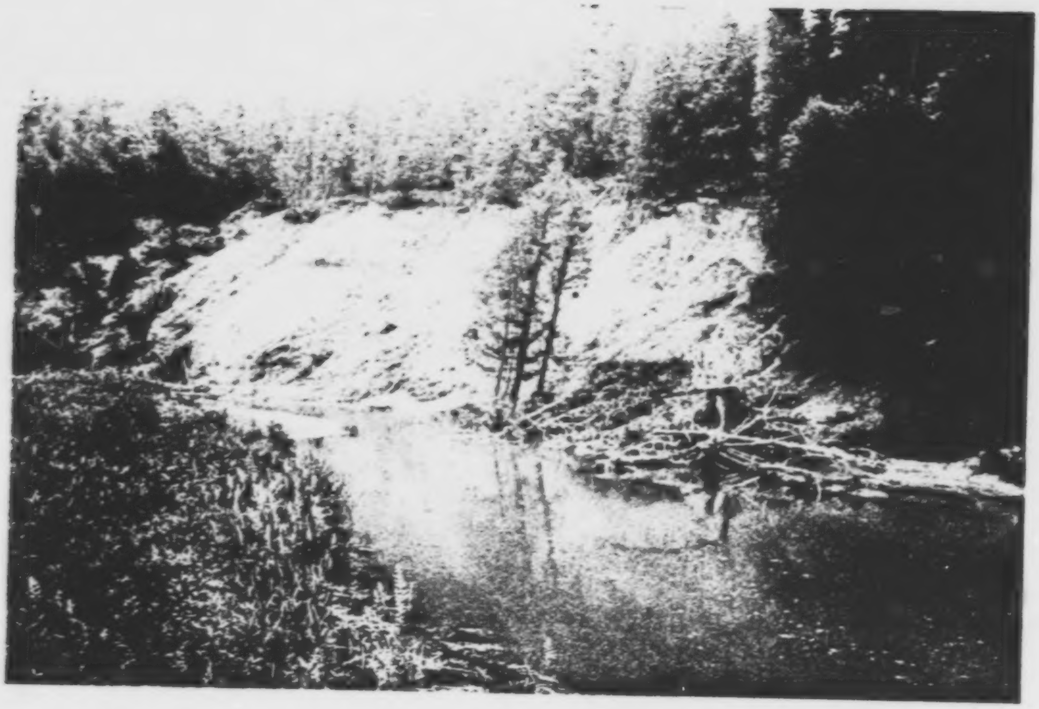

Figure 23 Zone of High Sediment Yield Located 0.5 km Upstream of Elder Mills Gauge Site

A study of overland sediment delivery using soil loss mapping indicated that many areas in the upper Humber River have significant potential (Hindley et al. 1986). The authors state that topography and land use are the major factors influencing sediment delivery. The Oak Ridges Moraine area (hummocky terrain) and the area east and south of Bolton (slightly undulating with row crop farming) are zones of high sediment delivery potential. The calculated potential for the Humber River upstream of Woodbridge is 12 $ha \cdot km^{-2}$ (Hindley et al., 1986).

In addition to sediment delivery potential the authors also reported on stream bank erosion. The report states that the upper reaches of the basis have the least potential for streambank erosion approximately (24 $m^2 \cdot km^{-2}$) while the area in the vicinity of the gauge has a potential of 624 $m^2 \cdot km^{-2}$ (Hindley et al., 1986).

4.3 Monthly Suspended Sediment Transport Regime

4.3.1 Concentrations

The correlation between monthly mean suspended sediment concentration and monthly mean discharge is present in Figure 24. The regression equation and the statistics are given in the lower right hand corner of the plot. Scatter seems to be greater at the lower (summer and fall) discharges than at the higher (spring) ones.

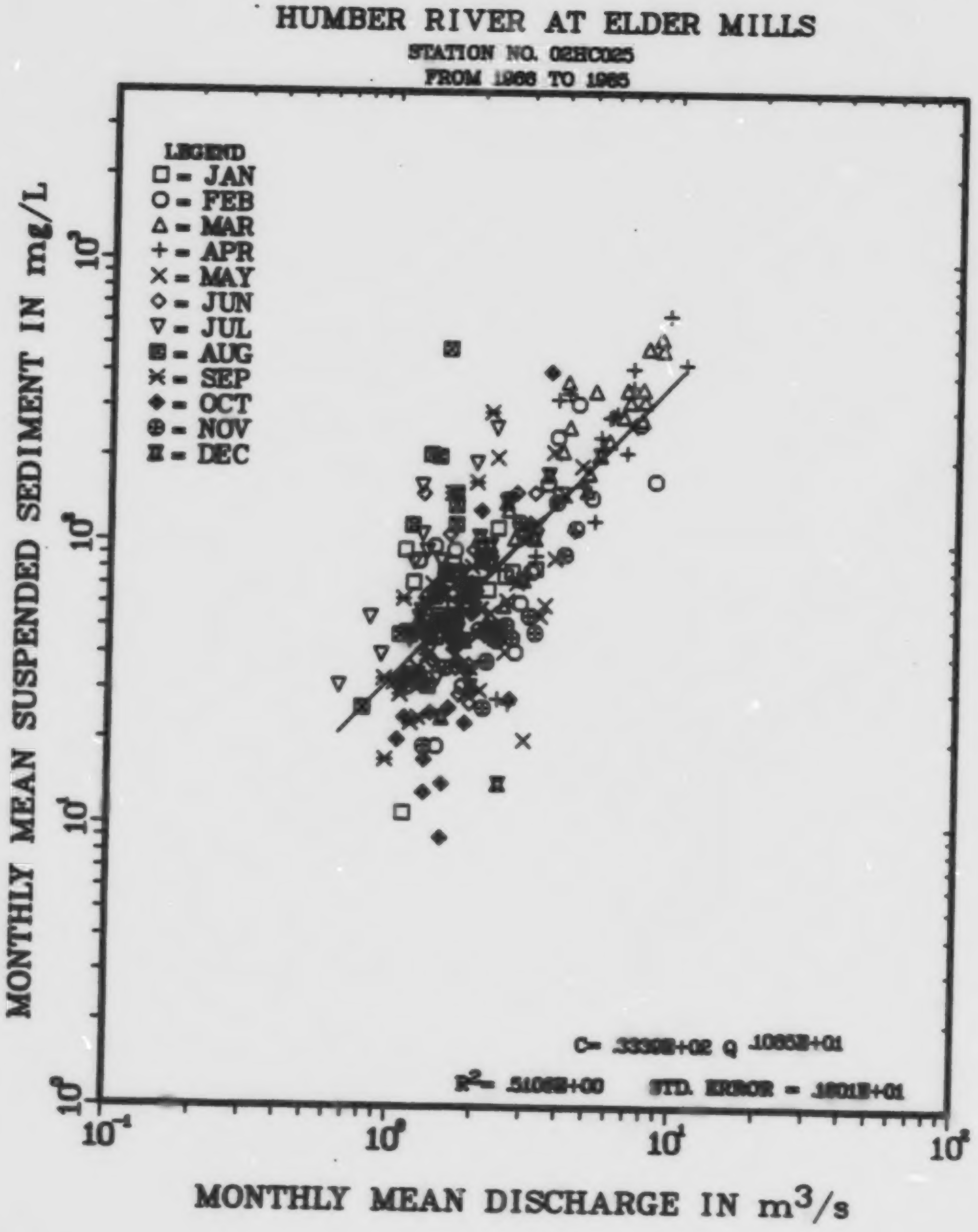

Figure 24 Monthly Mean Suspended Sediment Concentration
Versus Monthly Mean Discharge

4.3.2 Loads

The distribution of the mean monthly suspended sediment load for the 1966 to 1985 period is shown in Figure 25. February, March and April mean monthly load account for nearly 75% of the annual total load. The correlation between monthly total suspended load and monthly total discharge is illustrated in Figure 26. The regression equation and the statistics appear in the lower right hand of the diagram. The correlation coefficient (R^2) is much higher for load versus discharge than for concentration versus discharge (Figure 24). This is due to the spurrious correlation between load and discharge. The exponent of the power law regression equation is also greater for load versus discharge (2.4) than for concentration versus discharge (1.1). However the standard error of the regression is almost the same for both regressions. Scatter about the regression is similar to that of concentration but to a lesser degree.

Figure 27 illustrates the plot of mean monthly load versus mean monthly discharge. There are two patterns evident. First, there is the dominant clockwise hysteresis for January to July. Minor counter-clockwise sub-loops occur during the remainder of the year. The positive hysteresis is due to the flushing or exhaustion of the available sediment during the high spring flows leaving little material to be transported during the falling limb. The causes of the sub-loops are unknown.

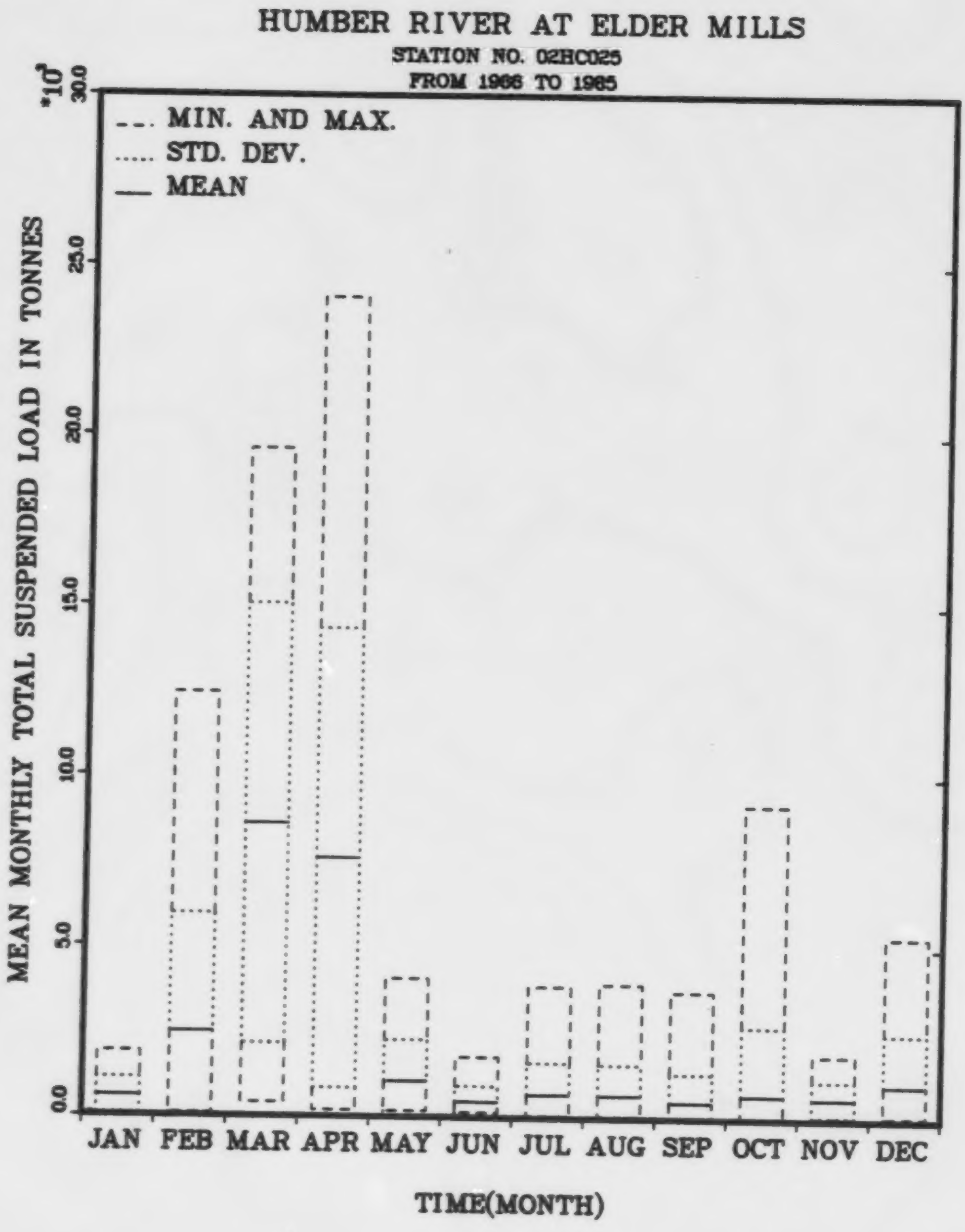

Figure 25 Monthly Suspended Sediment Load Regime

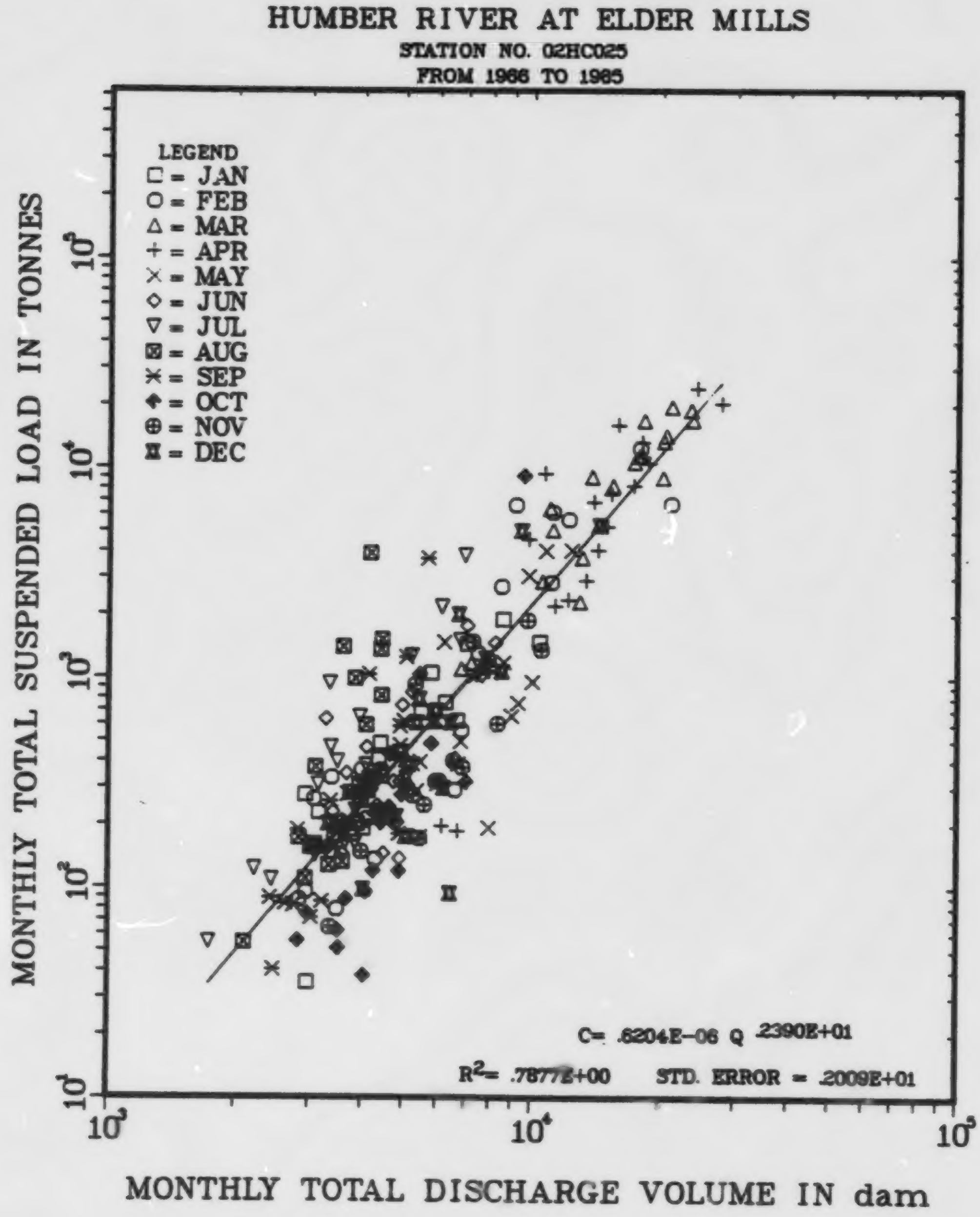

Figure 26 Monthly Total Suspended Sediment Load Versus Monthly Total Discharge

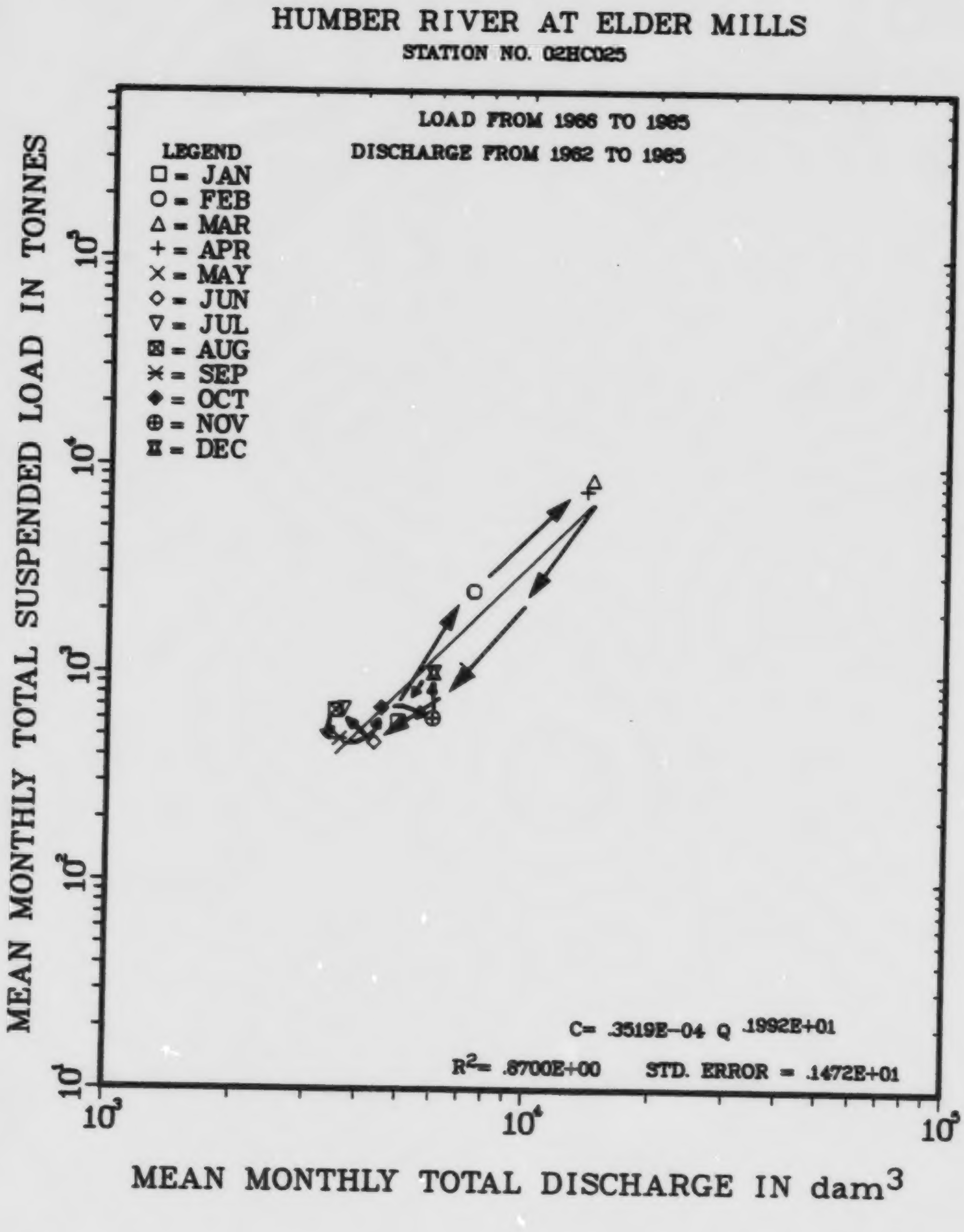

Figure 27 Mean Monthly Suspended Sediment Load Versus Mean Monthly Discharge

4.4 Daily Suspended Sediment Transport Regime

4.4.1 Concentrations

The relationship between the daily mean suspended sediment concentration and the daily mean discharge is illustrated by a typical year (1972) and an extreme year (1978) shown in Figures 28A and 28B respectively. Hysteresis shown by arrows displays a similar pattern to the one discussed eralier for mean monthly loads.

Rating curves relating daily concentrations and daily discharge can be calculated for each individual year (1966-1985). The correlation coefficients range from 0.29 in 1981 to 0.81 in 1969. The coefficients, exponents and the standard error for each year are listed in Table 4.

4.4.2 Loads

The duration curve for daily suspended sediment load is shown in Figure 29. The daily loads range from a maximum of 12 000 tonnes to a minimum of 0.130 tonnes. The median load is 6.88 tonnes. Table 5 lists some index values of this curve.

4.5 Extreme Events

Occasional short term high magnitude events transport important quantities of sediment. At the Humber River at Elder Mills station the

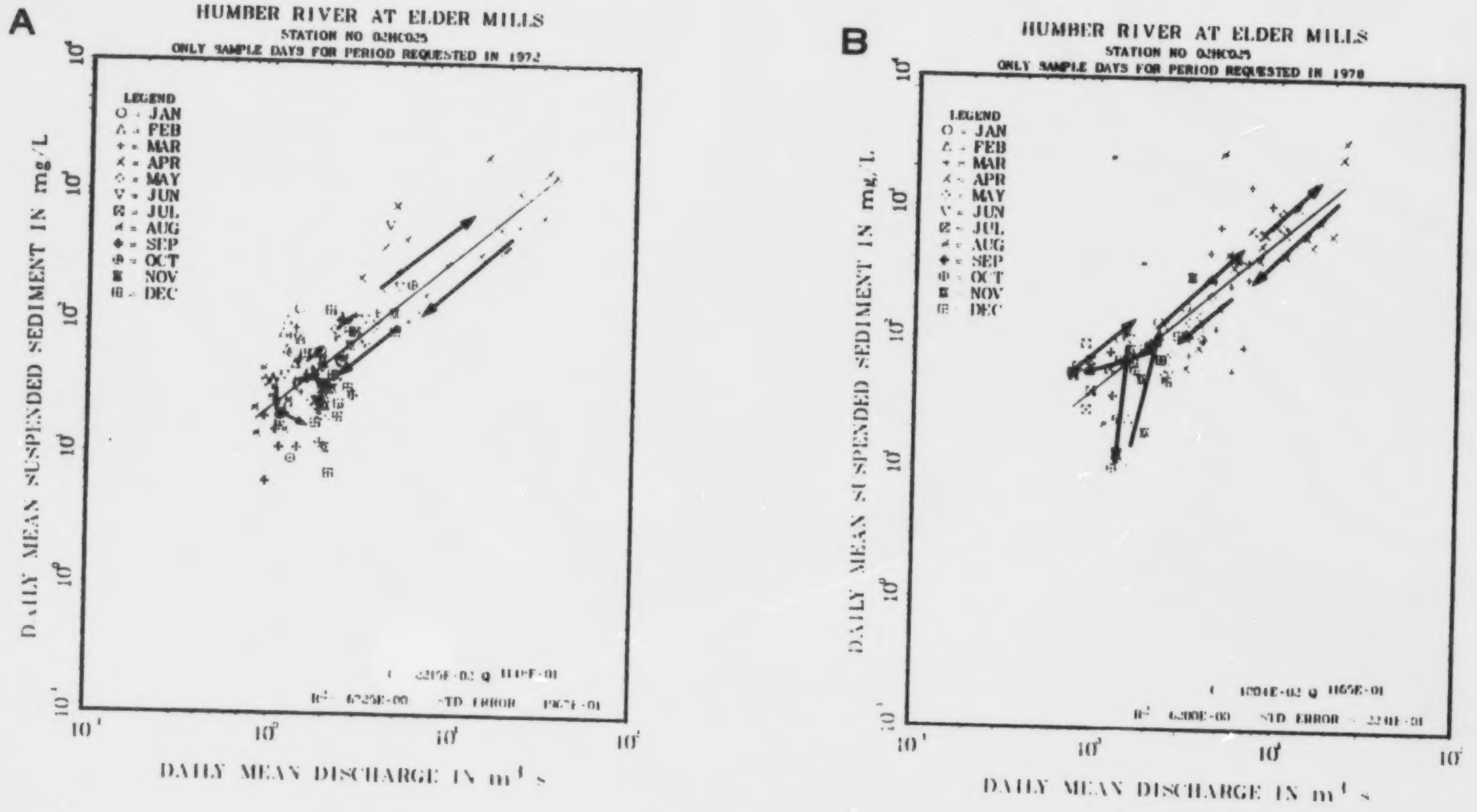

Figure 28 Daily Mean Suspended Sediment Concentration Versus Daily Mean Discharge A) 1972; B) 1978

TABLE 4

REGRESSION EQUATIONS FOR DAILY CONCENTRATION VERSUS DAILY DISCHARGE

Year	a	b	R^2	Standard Error
1966	26.04	1.081	0.6176	1.897
1967	27.30	1.405	0.6282	2.153
1968	30.84	1.032	0.3800	2.121
1969	15.23	1.359	0.8107	1.809
1970	28.29	1.227	0.4304	2.320
1971	33.27	1.127	0.4491	2.222
1972	22.15	1.148	0.6725	1.967
1973	18.79	1.197	0.6185	2.109
1974	16.50	1.373	0.7382	2.071
1975	27.51	1.211	0.6763	2.038
1976	36.11	1.183	0.6455	2.091
1977	66.86	0.866	0.3737	2.260
1978	40.04	1.165	0.6200	2.231
1979	27.44	1.346	0.7728	1.909
1980	26.32	1.267	0.7801	1.795
1981	19.39	0.865	0.2871	2.690
1982	21.97	1.231	0.6496	2.098
1983	19.94	1.264	0.6439	2.039
1984	15.70	1.257	0.3880	2.865
1985	27.21	1.078	0.6378	2.011

Form of Equation: $C = aQ^b$

where C = sediment concentration $mg \cdot L^{-1}$

Q = discharge $m^3 \cdot s^{-1}$

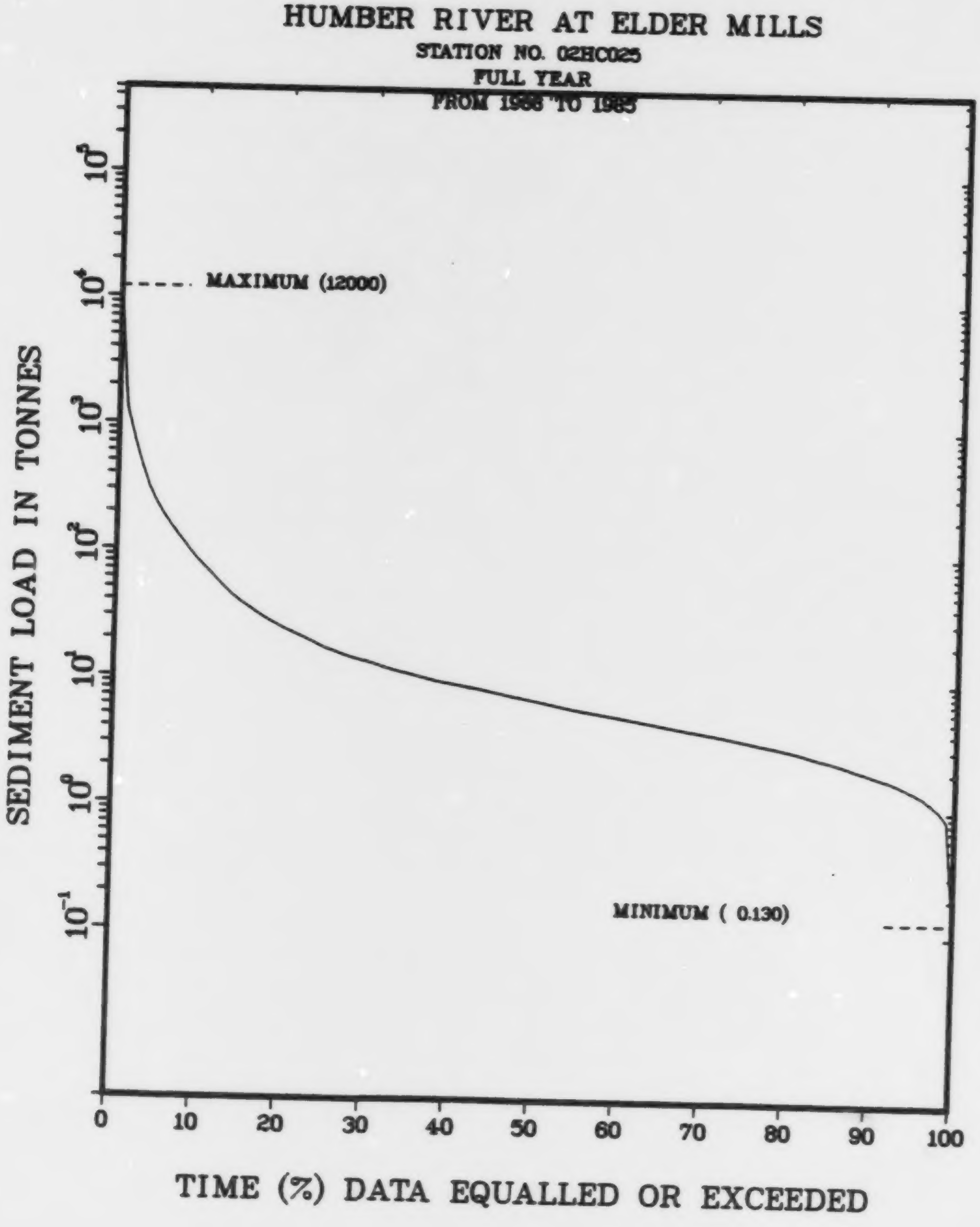

Figure 29 Daily Suspended Sediment Duration Curve

TABLE 5

SUSPENDED SEDIMENT LOAD EQUALLED OR EXCEEDED AT VARIOUS PERCENTAGES OF TIME

Percentage %	Load (tonnes)
1	1 300.00
5	217.00
10	79.60
20	24.40
30	13.40
40	9.22
50	6.88
60	5.19
70	3.97
80	2.97
90	1.94
100	0.130

largest single daily load (April 19, 1974) was calculated at 12 x 10^3 tonnes. This represents 47% of the mean annual load for the entire 1967-1985 period.

The percentage of the annual load carried by the highest consecutive four day load (1% of the time) and by the highest consecutive 36 day load (10% of the time) in each year is illustrated in Figure 30. The four consecutive highest days transport an average of 34.9% of the annual load ranging from 19.8 to 55.3%. The 36 consecutive highest days carry an average of 65.3% of the annual load with a range of 37.8 to 86.4%.

The cumulative percentage of the total load transported by 1% increments of the load duration curve is shown in Figure 31. Results indicate that 95% of the annual load is transported in approximately 30% of the time.

Figure 32 supports that infrequent high magnitude flow events transport large amounts of sediment over a short time span. Approximately 35% of the total record load is carried during 26 days out of 7 246 in discharges greater than 22.3 $m^3 \cdot s^{-1}$. These discharges are equalled or exceeded less than 1% of the time. However, frequent low flows are responsible for the transport of the greatest amount of suspended sediment over the entire period.

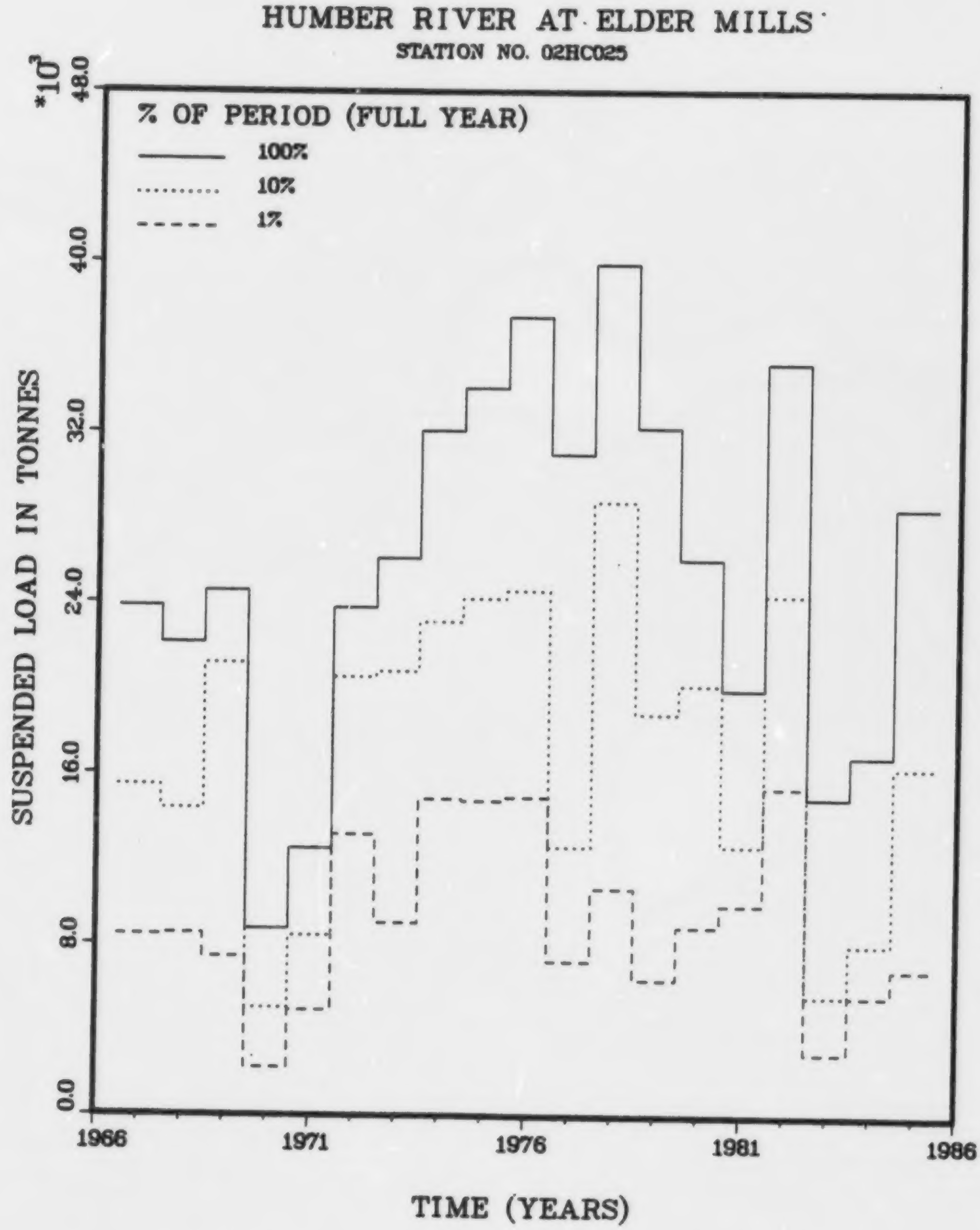

Figure 30 Percentage of Annual Suspended Sediment Load Transported During the Best 4(1%) and 36(10%) Consecutive Days

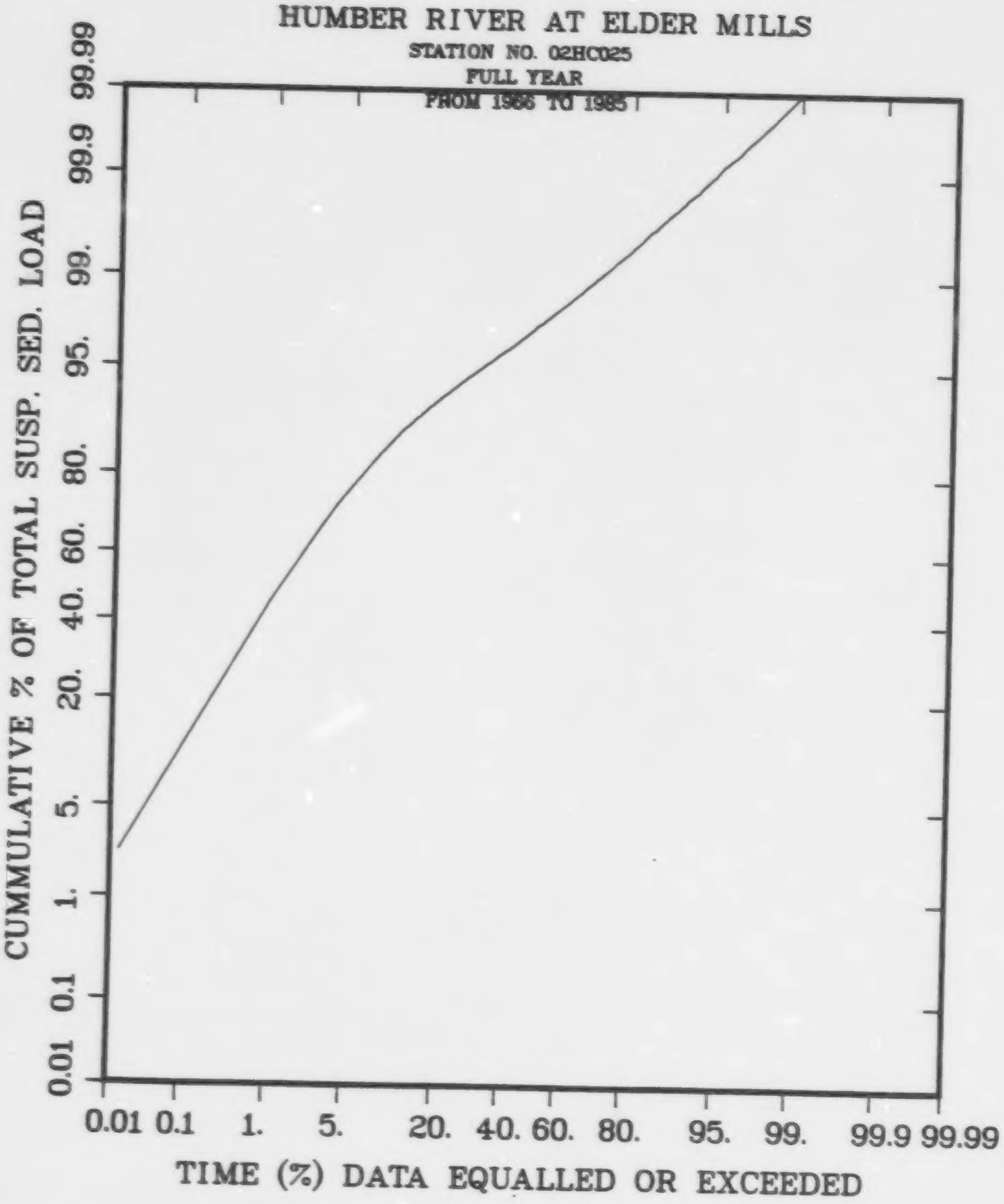

Figure 31 Cumulative Percentage of Total Suspended Sediment Load Versus Percentage Time

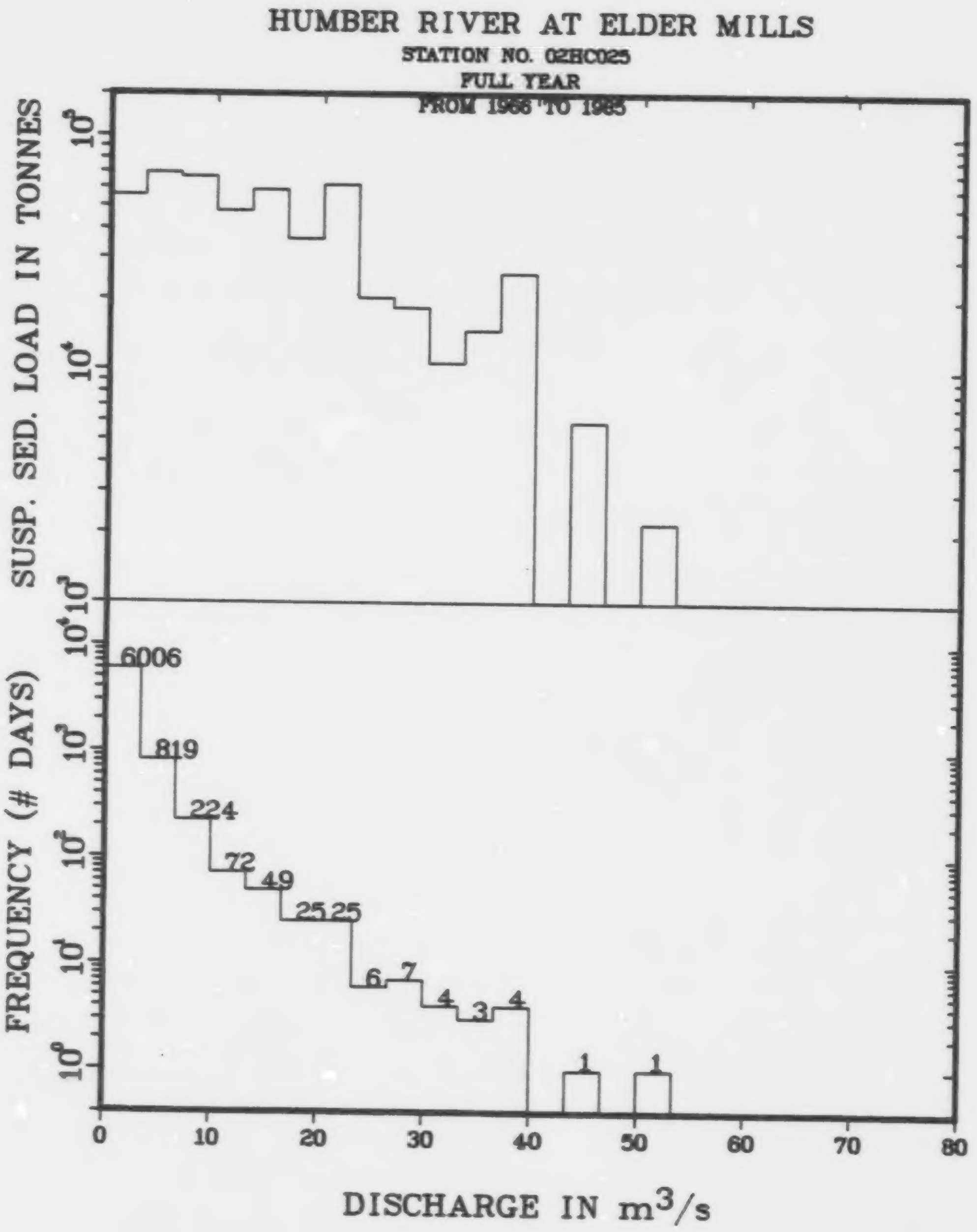

Figure 32 Total Suspended Sediment Load Transported by Various Increments of the Discharge Duration Curve

4.6 Long-Term Mean Characteristics

The relationship between the standard error of the mean annual suspended sediment concentration estimate and record length is illustrated in Figure 33. The plot shows that over the 19 years of data collection at this site the standard error of the mean has been reduced to 7.5%. The bottom graph demonstrates that each additional year of sampling would only increase the precision by about 0.1 of 1%.

Similarly, Figure 34 shows the relationship between the standard error of the mean suspended sediment load estimate and record length. Again, the standard error of the mean is only 7.5% and each additional year of data collection would only reduce the standard error by less than 0.5 of 1%.

Thus, any further data collection would not improve the standard error of the estimate by any substantial amount.

4.7 Particle Size

4.7.1 Suspended Sediment

A composite plot of the particle size distribution curves for the complete set (121) of depth-integrated samples is represented in Figure 35. The particle size data is presented in a tabular format in Appendix C. These sediments consist of 21% clays, 59% silts and 20% sand.

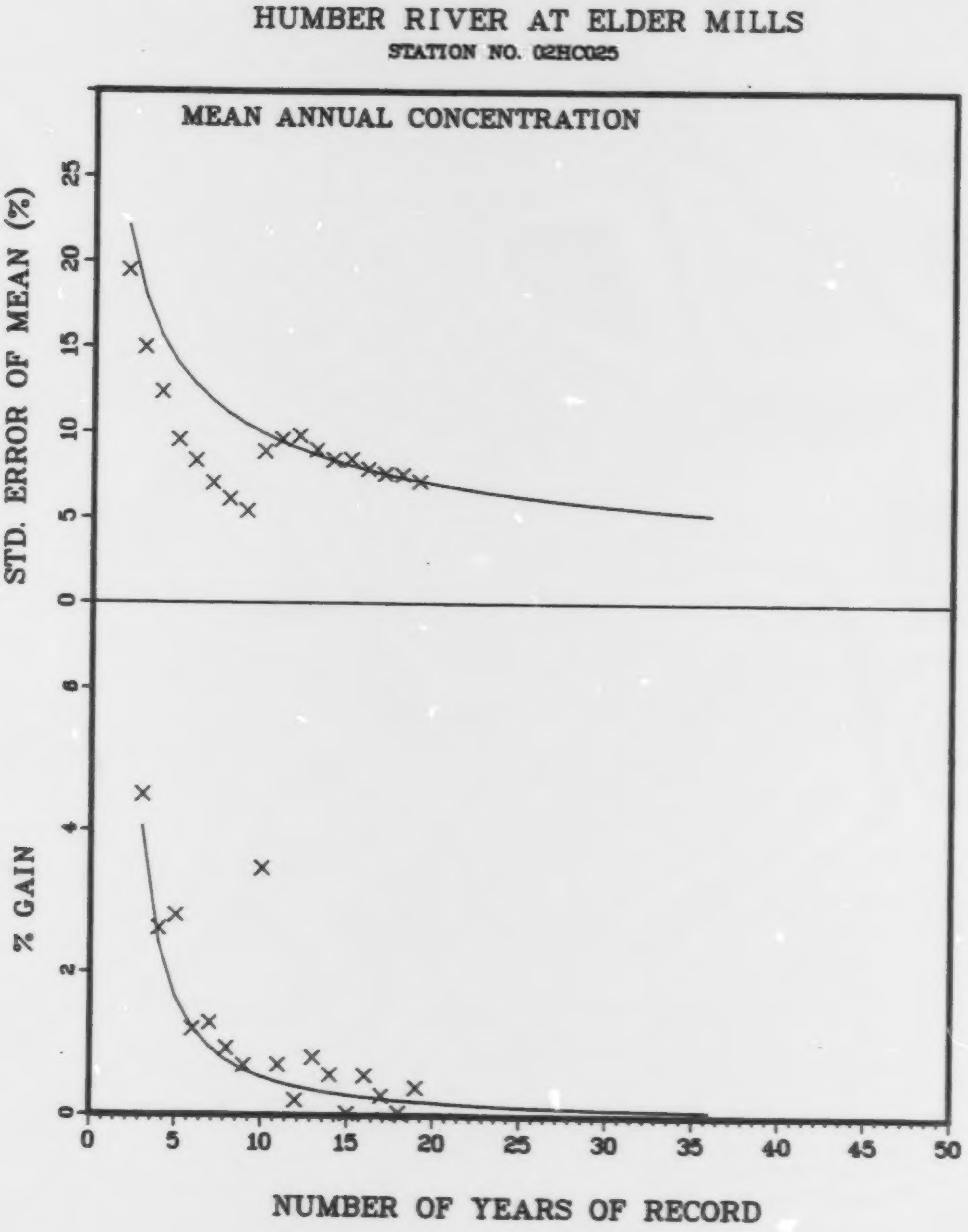

Figure 33 Relationship Between the Standard Error of the Mean Annual Suspended Sediment Concentration and Record Length (Top). Percentage of Gain in the Standard Error of the Mean for Each Additional Year of Record (Bottom)

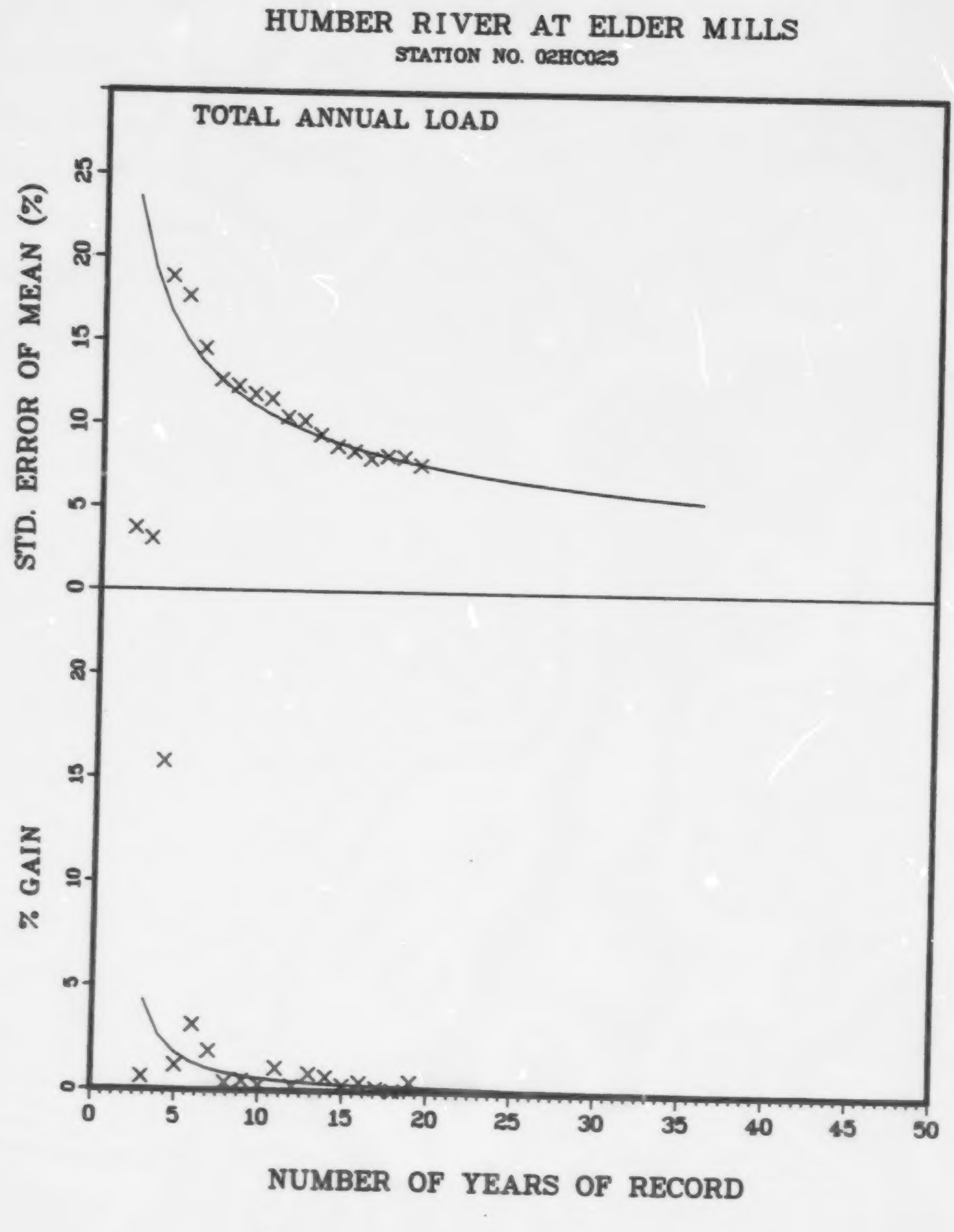

Figure 34 Relationship Between the Standard Error of the Mean Annual Suspended Sediment Load and Record Length (Top). Percentage of Gain in the Standard Error of the Mean for each Additional Year of Record (Bottom)

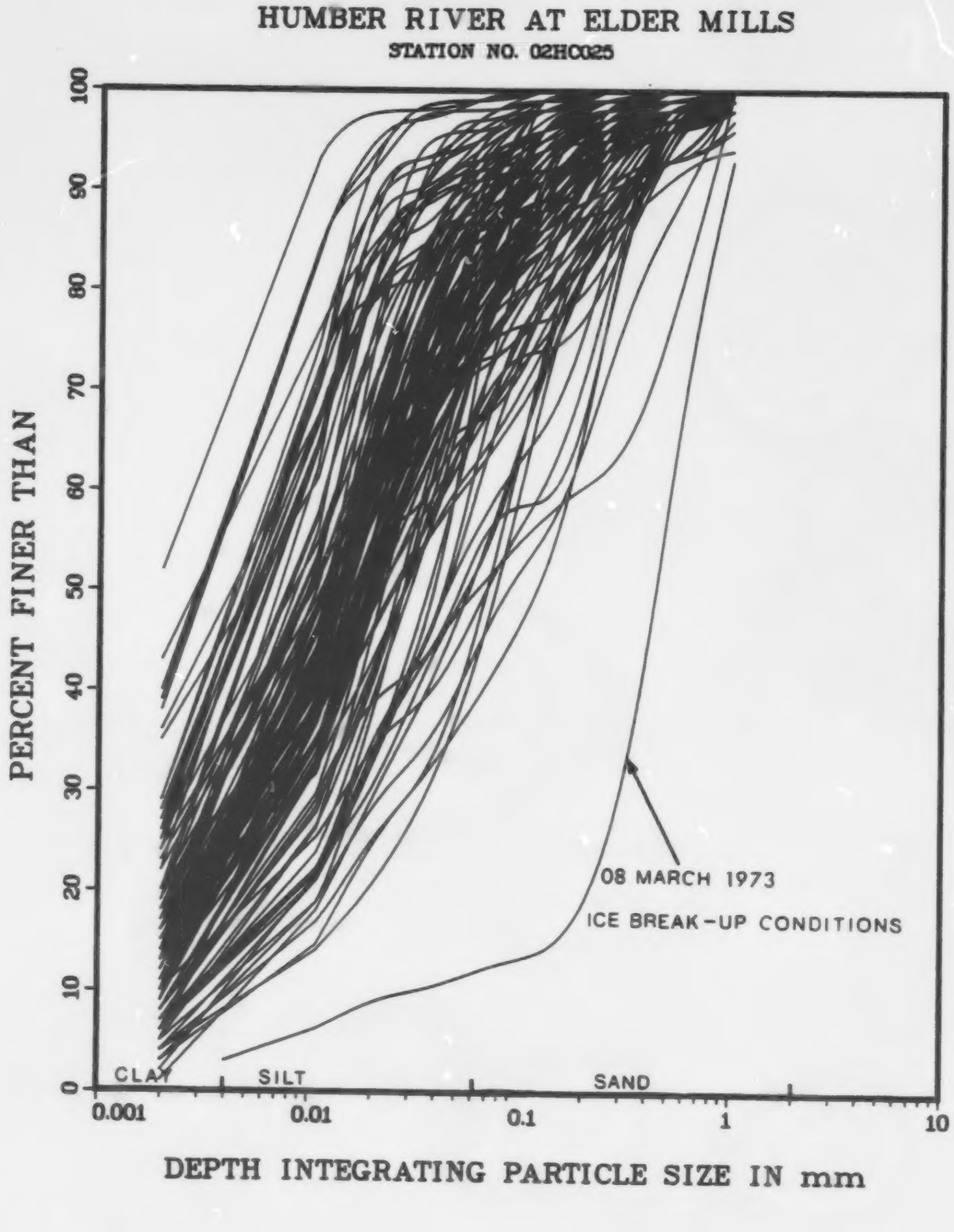

Figure 35 Composite Plot of Depth Integrated Particle Size Curves

The mean D_{50} of the samples is 0.0199 mm with a standard deviation of 0.0180 mm. Grading fluctuated between 0.0022 and 0.90 mm. The March 08, 1973 curve clearly stands out from the others as the sample consisted of 12% silts and clays and 88% sands. This high sand content seems to be due to ice break-up conditions at the time of sampling.

The percentage of silt and clay in the samples shows a slight decreasing trend with increasing discharge while it demonstrates no apparent tendency with sediment concentration (Figure 36). An increase in D_{50} with increasing discharge is discernible in Figure 37. Grading shows no trend at all and no apparent pattern appears in the sand fraction plots (Figure 38).

The particle size data shows a seasonal trend as the proportion of fine material transported during the January to May period (Figure 39) is less than that of the June to December period (Figure 40). Higher discharges during the first part of the year lead to greater stream carrying capacity and thus to the entrainment of larger particles.

4.7.2 Bed Material

Bed material have been sampled six times in the same cross-section during the operation of the station. The particle size distribution curves are plotted in Figure 41. The particle size data is presented in a tabular format in Appendix C. Each curve is a mathematical mean of either 5 sampling points (river cross-section), 7 sampling points (5 in the river cross-section and 2 at the water's edge)

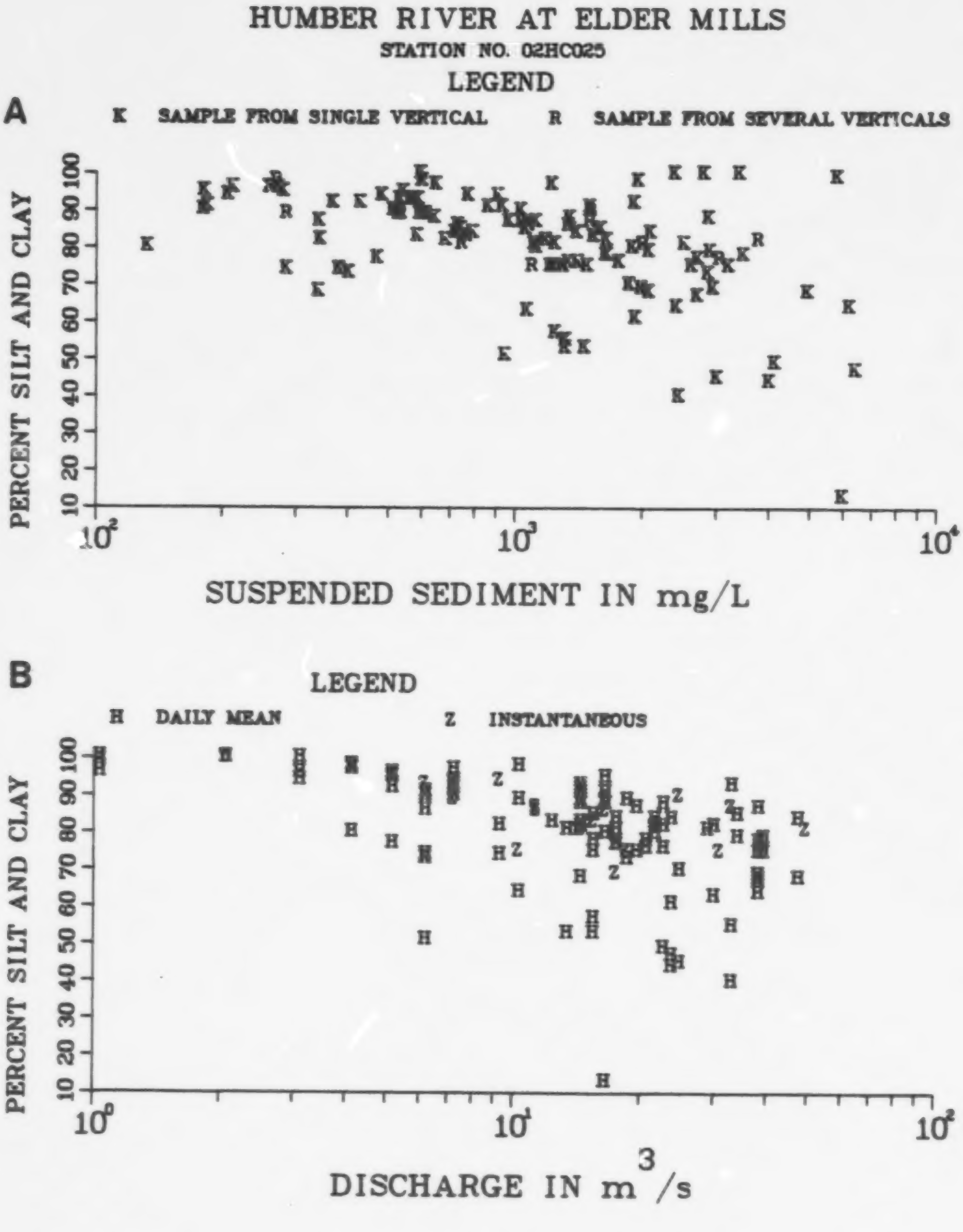

Figure 36 Percentage of Silt and Clay Content of
Suspended Sediment Versus
1) Suspended Sediment Concentration
2) Discharge

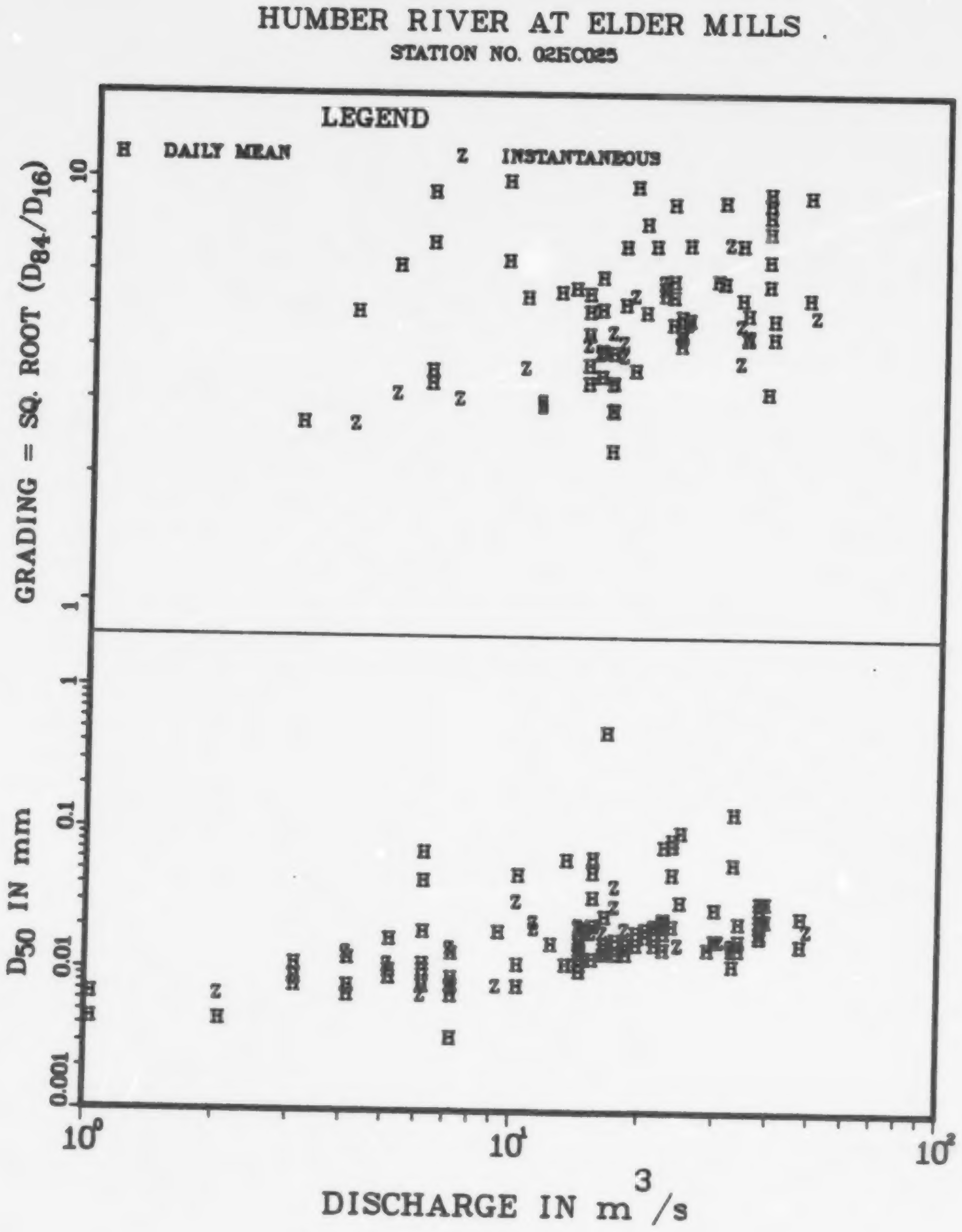

Figure 37 Grading and Median (D_{50}) Particle Size of Suspended Sediment Versus Discharge

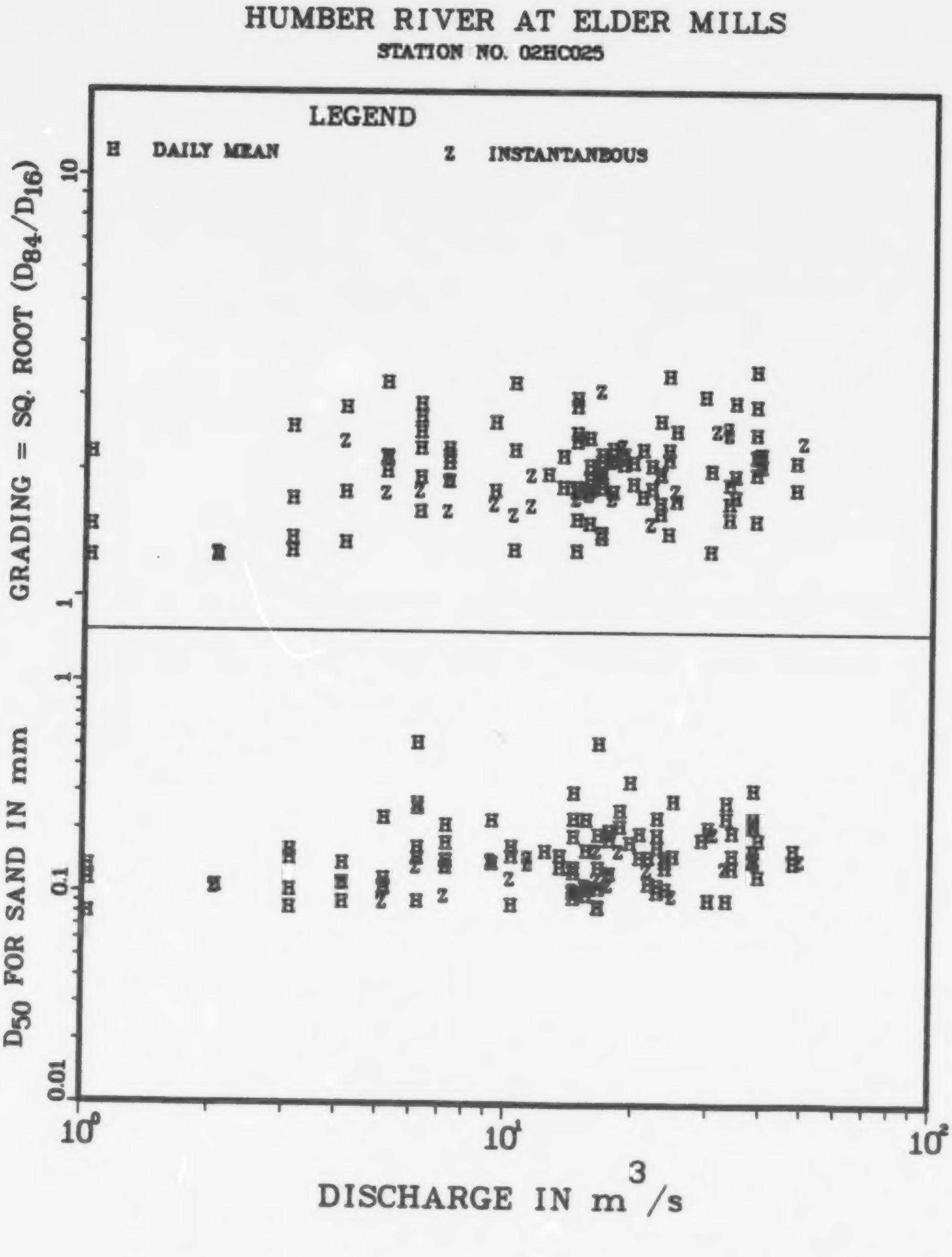

Figure 38 Grading and Median (D_{50}) Particle Size of the Sand Fraction Versus Discharge

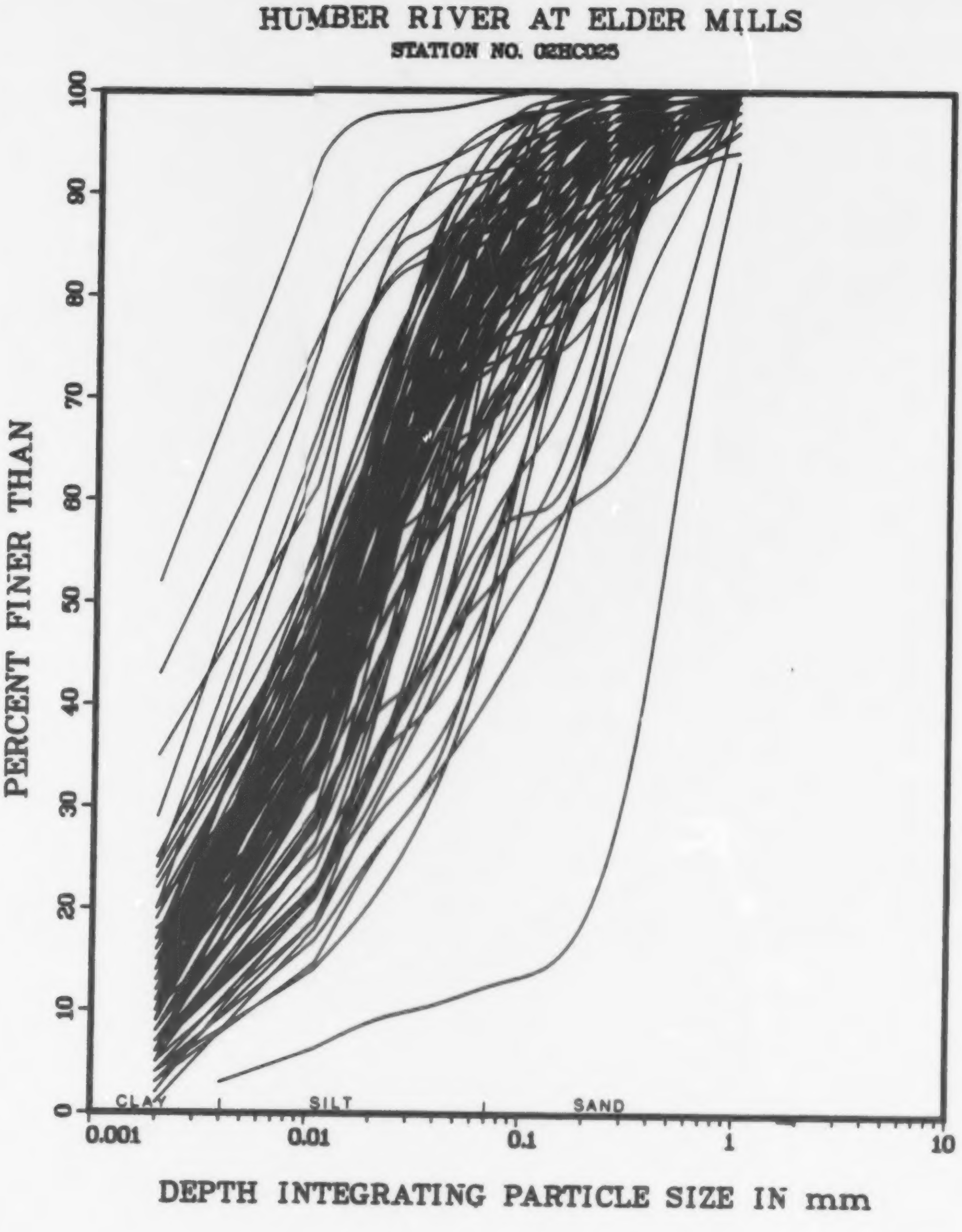

Figure 39 Composite Plot of Seasonal Depth Integrated Particle Size Curves (January-May)

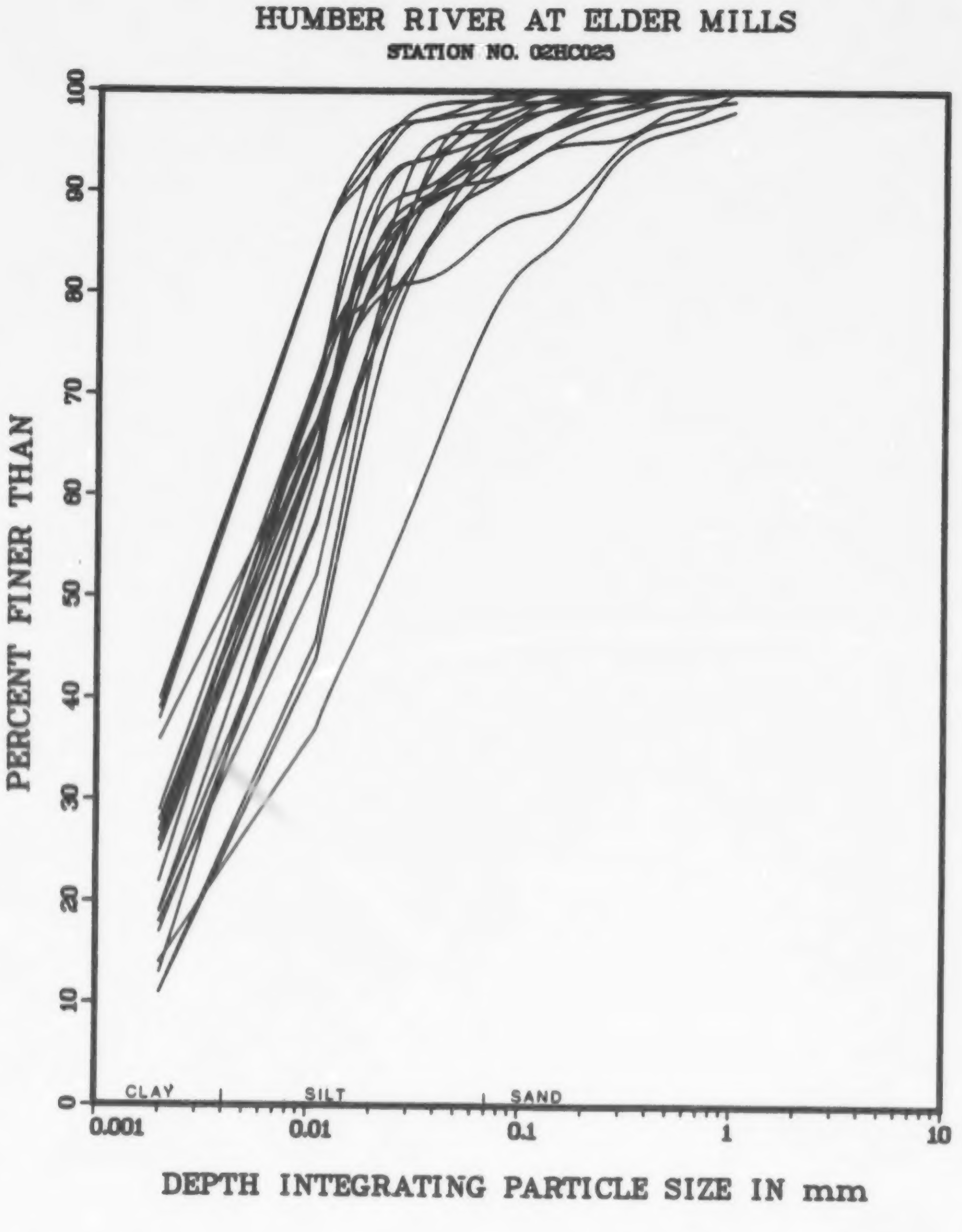

Figure 40 Composite Plot of Seasonal Depth Integrated Particle Size Curves (June-December)

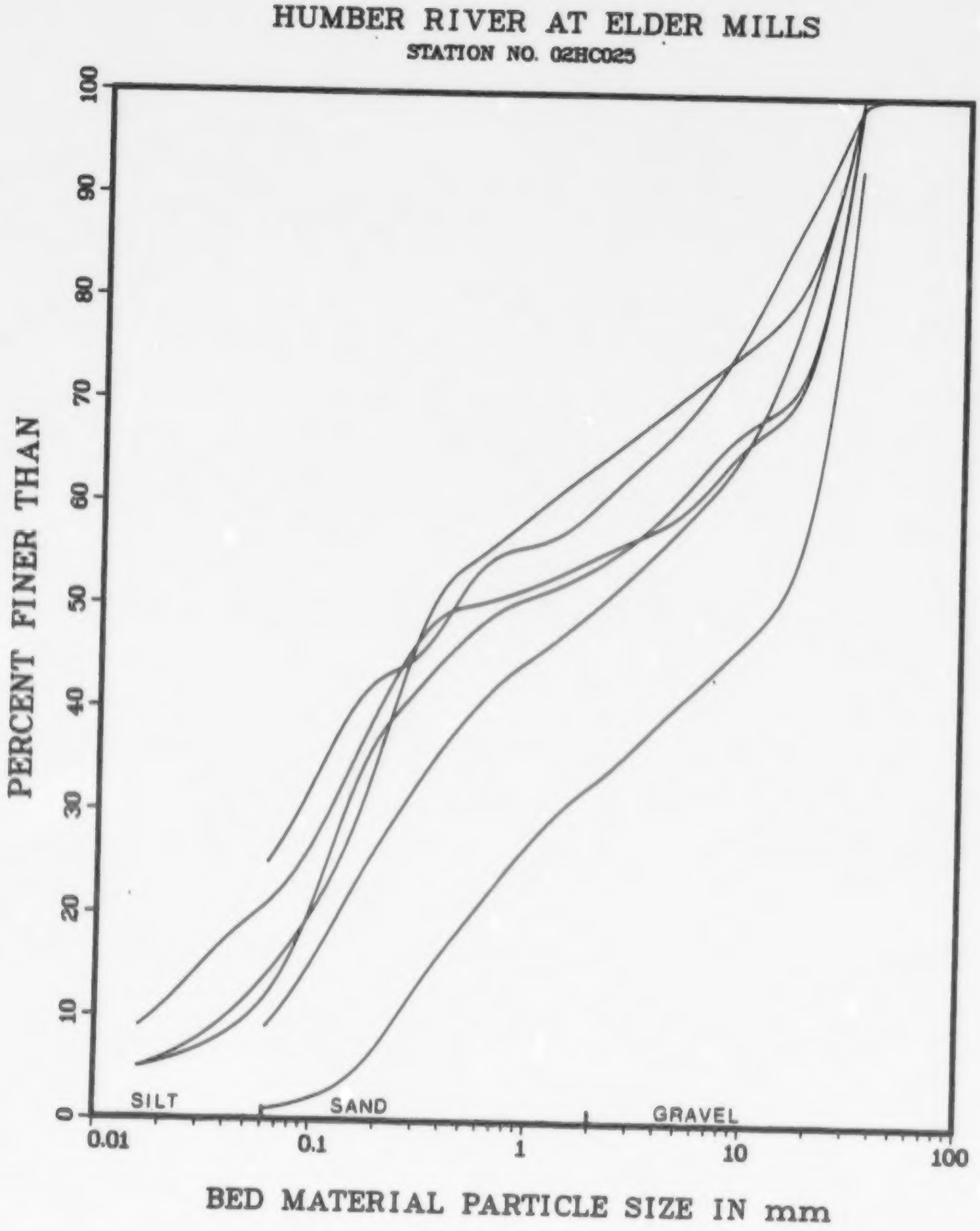

Figure 41 Composite Plot of Bed Material Particle Size Curves

or 9 sampling points (5 in the river cross-section, 2 at the water's edge and 2 at high water level points). The mean D_{50} is 2.90 mm with a standard deviation of 5.16 mm. Grading ranges from 8.6 to 27.0. The samples consist of 1 to 25% silt and clays, 31 to 45% sand and 36 to 60% gravel.

4.8 Dissolved Solids Transport Regime

Dissolved solids concentrations are available on suspended sediment sampled days throughout the period of record. Samples have been analysed on a total of 1011 days.

Dissolved Solids concentration varies inversely with mean daily discharge. This inverse relationship is due to the dilution of a relatively constant chemically-rich baseflow by chemically-poor quick flow (i.e. snowmelt) (Statham, 1977, p. 140).

The annual solute regime displays a seasonal trend as spring concentrations decrease with the increase in discharge (dilution effect) while they increase with the falling stage of summer. Summer agricultural practices (i.e. addition of fertilizer) are also important factors in this increase. This clockwise (positive) hysteresis is shown in Figure 42. The plot for all data points in 1978 also indicates that concentrations on the rising limb of the hydrograph are greater than those on the falling limb.

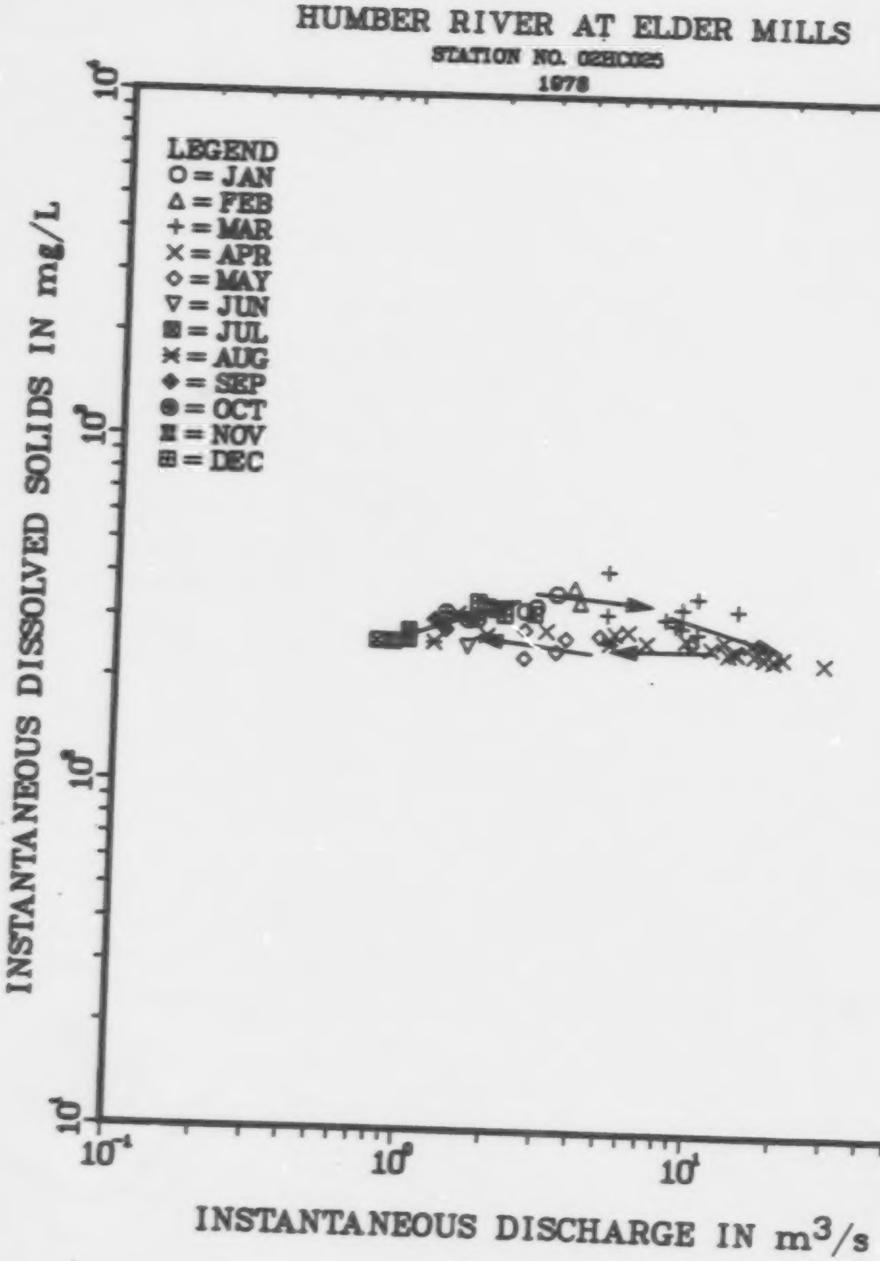

Figure 42 Dissolved Solids Versus Instantaneous Discharge (1978)

Solute concentrations fluctuated between 82 and 1 450 $mg \cdot L^{-1}$ with most samples located in the 250-350 range. This low variability in concentration is due to a regular supply of dissolved solids originating from the predominantly agricultural basin.

An estimate of the dissolved solids load can be obtained by using upper limit solute concentrations of 250 and 350 $mg \cdot L^{-1}$ for the January to May and the June to December periods together with the mean seasonal flow during both periods (0.047×10^6 dam and 0.031×10^6 dam respectively). This gives a dissolved solids load of 23×10^3 tonnes which is slightly smaller than the mean annual suspended sediment load of 25.8×10^3 tonnes. These results suggests that the amount of dissolved solids transported by the Humber River is as great as the suspended sediment load at the Elder Mills station. The combined load can be estimated at approximately 45×10^3 tonnes annually.

5.0 SUMMARY AND PROGRAM EVALUATION

5.1 Summary of Data and Information

Humber River at Elder Mills suspended sediment concentrations have ranged from 1.00 to 4 130 $mg \cdot L^{-1}$ with a mean annual concentration of 112.8 $mg \cdot L^{-1}$. The mean annual load for the 1967-1985 period is 25.8×10^3 tonnes with more than 75% transported during the January to May period. A mean annual suspended sediment yield for the basin upstream of the station was calculated at 85.1 $t \cdot km^{-2} \cdot a^{-1}$. This figure is probably an underestimation due to the numerous upper basin areas that are not connected to the Humber River.

The annual suspended sediment transport regime displays a clockwise hysteresis from January to July resulting from the exhaustion of the available material during the rising limb of the hydrograph. Counter-clockwise hysteresis loops occur during the rest of the year in response to infrequent high magnitude flow events. Daily sediment loads have ranged from 0.130 to 12 000 tonnes.

Infrequent short term high magnitudes events are responsible for the transport of important amounts of sediment at Elder Mills. The April 19, 1974 sediment load of 12×10^3 tonnes is equivalent to 47% of the mean annual load. On average the highest consecutive four day load represents about 35% of the annual total. The cumulative load duration curve indicates that 95% of the annual total is carried in 28% of the time.

The mean D_{50} of the suspended sediment samples is 0.0199 mm and shows a slight increase with increasing discharge. These samples are composed of 21% clays, 59% silts and 20% sand. The mean D_{50} of the bed material samples including channel and bank material is 2.90 mm. These samples contain 1 to 25% silt and clays, 31 to 45% sand and 36 to 60% gravel.

Dissolved solids concentrations show an inverse relationship with discharge. Solute concentrations ranged between 82 and 474 $mg \cdot L^{-1}$. Using upper limit concentrations of 250 and 350 $mg \cdot L^{-1}$ for the January to May and the June to December periods and their corresponding seasonal mean flow, the annual dissolved solids load ($23x10^3$ tonnes) transported by the Humber River would be as great as the mean suspended sediment load of $25.8x10^3$ tonnes. The total combined load would be in the order of $45x10^3$ tonnes per year.

However, while sufficient data of certain types exist, there remain numerous deficiencies. For example, no bedload data or estimates of bedload transport rates and volumes presently exist. Also, for fishery concerns the lack of knowledge of sediment sources and depositional and erosional sites along the channel systems is a critical weakness. Both of these deficiencies can be satisfactorily addressed by mounting special field and office studies.

The major deficiency in this analysis results from the lack of understanding of the effects of the increasing flow trends, and the causes of the almost cyclical trend in annual suspended sediment loadings, and for the differences in the seasonal trends in loadings. The linkages amongst hydrological inputs, terrain conditions and sediment yield are unknown. Understanding the causative relationships are important for the fisheries applications and could well be important for reservoir purposes.

5.2.2 Recommendations

The sampling program should continue until:

1. the clients have assessed their needs to apply the data and information for their fisheries and reservoir design interests.

2. the appropriate representatives of federal, provincial and conservation agencies have reviewed their current needs and interests in this data base, and their review should consider the importance of understanding the causative relationships resulting in the loading patterns.

Also, as the present analysis is incomplete due to the existence of trends and the present lack of explanation of these trends, it is recommended that:

3. a more thorough analysis be undertaken in order to answer these concerns, and this could be accomplished for example by removing the effects of the trends, analysing land use data, and expanding the analysis to include other nearby basins as these trends are not restricted to the Humber basin.

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APPENDIX A

Water Survey of Canada Procedures

This appendix contains a summary of Water Survey of Canada data collection and processing procedures copied directly from the annual sediment data publications.

COLLECTION AND PROCESSING OF BASIC DATA

1. *Equipment and Instrumentation*

The sediment survey program of the Water Resources Branch is conducted in cross sections on rivers selected specifically for the sediment survey or for the hydrometric survey. Certain cross sections are located at traffic bridges, while others are equipped with cableways, or automatic pump samplers.

The following sediment samplers have been used in the sediment survey program:

(a) Depth-integrating suspended sediment wading-type hand sampler, USDH-48, used on small streams or during winter periods.

(b) Depth-integrating suspended sediment sampler, USDH-59, used as a handline suspension for small and medium size streams.

(c) Depth-integrating suspended sediment samplers, USD-49, and USD-74, used on a reel suspension for medium and large streams whose depths are less than five metres.

(d) Point-integrating suspended sediment samplers, USP-61, USP-61-A1, USP-63, and USP-72, used for point-integrating sampling, or depth-integrating sampling if the depth is over five metres, or in a cross section with velocities up to two metres per second.

(e) Automatic pump sampler is an automatic pumping system permitting unattended collecting and bottling of individual water samples pumped from a fixed point in a stream. This sampler is normally installed at isolated locations where otherwise no data would be available during ice break-up or peak periods.

(f) Bed material sampler, USBM-54, used on large or deep streams or on those streams with hard-packed streambeds.

(g) Bed material sampler, USBMH-60, used on some large or deep streams or on those streams with soft-packed streambeds.

(h) Bed material sampler, USBMH-53, used on some small or shallow streams.

(i) Lane bed material sampler, a drag-type sampler used on small streams or those with soft streambeds.

2. *Hydrometric Surveys*

The hydrometric survey includes the standard procedures for observations of water levels, streamflow measurements, water surface slope determinations if required, and observations of water temperature. The streamflow measurements are made in conjunction with the sediment load measurements and conform to the accepted standards of the regular hydrometric survey.

3. *Sediment Sampling Program*

The following is a summary of the elements associated with the Sediment Sampling Program:

(a) Periodic measurement of suspended sediment load by the

COLLECTE ET TRAITEMENT DES DONNÉES DE BASE

1. *Matériel*

L'étude des sédiments réalisée par la Direction des ressources en eau porte sur des sections transversales de cours d'eau choisis spécialement à cette fin ou pour les relevés hydrométriques. Certaines sections sont situées sous un pont, d'autres sont accessibles par téléphérique, ou sont étudiées à l'aide d'un échantillonneur sous pression.

On a utilisé les échantillonneurs suivants:

(a) L'échantillonneur intégrateur selon la profondeur, type simple, USDH-48, employé dans les cours d'eau peu profonds ou en hiver;

(b) L'échantillonneur intégrateur selon la profondeur USDH-59, utilisé comme une ligne dans les cours d'eau petits et moyens;

(c) Les échantillonneurs intégrateurs selon la profondeur USD-49 et USD-74 fixés au bout d'une corde s'enroulant autour d'un moulinet et employés dans les cours d'eau gros ou moyens dont la profondeur est inférieure à cinq mètres;

(d) Les échantillonneurs intégrateurs USP-61, USP-61-A1, USP-63 et USP-72, employés ponctuellement ou sur toute la verticale, et utilisés lorsque la profondeur est supérieure à cinq mètres ou dans les sections transversales qui connaissent un débit qui atteint 2 m/s.

(e) Un échantillonneur automatique permettant le prélèvement en bouteilles, sans surveillance, d'échantillons uniques d'eau obtenus à l'aide d'une pompe en un point précis d'un cours d'eau; il est ordinairement installé dans un endroit isolé où aucune donnée ne pourrait être obtenue autrement au cours de la débâcle ou des périodes de débit de pointe;

(f) L'échantillonneur USBM-54 employé pour le prélèvement d'échantillons des matériaux du lit dans les cours d'eau importants ou profonds ou dans les cours d'eau dont le fond est dur;

(g) L'échantillonneur USBMH-60 employé pour le prélèvement d'échantillons des matériaux du lit dans certains cours d'eau importants ou profonds, ou dans les cours d'eau dont le fond est meuble;

(h) L'échantillonneur USBMH-53 employé pour le prélèvement d'échantillons des matériaux du lit dans certains cours d'eau petits ou peu profonds;

(i) La drague employée pour le prélèvement d'échantillons des matériaux du lit dans de petits cours d'eau ou dans des cours d'eau dont le fond est meuble.

2. *Relevés hydrométriques*

Le relevé hydrométrique comprend, entre autres, l'observation de la hauteur des eaux, la mesure du débit de l'eau, la détermination de la pente de la ligne d'eau, si nécessaire, ainsi que l'observation de la température de l'eau. Les mesures du débit de l'eau et du débit des sédiments se font conjointement, suivant les méthodes acceptées.

3. *Échantillonnage des sédiments des cours d'eau*

L'échantillonnage comporte, en gros, les éléments suivants:

(a) La mesure périodique du débit des sédiments en suspension par la methode d'intégration sur toute la profondeur depth-integrating method for determining the average suspended sediment concentration in the cross section.

(b) Single suspended sediment samples at a selected vertical for determining the sediment concentration for the days when suspended sediment load measurements are not taken.

(c) Limited measurement of suspended sediment load by the point-integrating method for checking depth-integrated measurements and for determining particle-size distribution in the cross section.

(d) Sampling of bed material for determining particle-size distribution.

(e) Periodic measurement of bed load.

The following is a brief explanation of the elements listed above:

(a) *Suspended Sediment Load by Depth-Integrating Method*: Measurements are made by the depth-integrating method to determine the suspended sediment load in the entire cross section of a stream, the average suspended sediment concentration in the cross section, and the size distribution of the sediment particles. It is known that the concentration of suspended sediment tends to increase from the water surface to the streambed and could vary from streambank to streambank.

When making suspended sediment equal-discharge-increment (EDI) measurements, the stream cross section is divided into at least five equal-flow panels and a representative suspended sediment sample is collected from each portion. For each panel of the cross section, the suspended sediment load (r) may then be computed by multiplying the flow (q) by the suspended sediment concentration (c):

$$r = q\ c$$

The suspended sediment load (R) for the cross section may be computed by adding the sediment loads for the five equal-flow panels:

$$R = r\ n = q_1c_1 + q_2c_2 + \ldots + q_nc_n$$

The depth-integrating method of sampling is used to measure the suspended sediment concentration. This method is based on the premise that the sampler fills at a rate proportional to the velocity of the approaching flow, and that by traversing the depth of a stream at a uniform speed, the sampler will receive a portion of water sediment mixture at every point in the vertical.

(b) *Single Suspended Sediment Samples at a Selected Vertical*: Single suspended sediment samples, consisting of two bottles each, are collected routinely using the depth or point-integrating samplers at a permanently fixed vertical in a cross section. During periods of very heavy sediment concentration, two or three single sediment samples may be taken per day, while during periods of low concentration, one single sediment sample may only be taken every few days. During extremely low flow periods, the sampling may be limited to one single sample in several weeks or months.

(c) *Suspended Sediment Load by Point-Integrating Method*: A limited number of suspended sediment load measurements are made by the point-integrating method. These measurements are included in the program (a) to check by comparison the "measured" sediment loads obtained by the depth-integrating method with the suspended sediment loads by the point-integrating method and (b) to obtain samples from which to determine particle-size distribution

pour la détermination de la concentration moyenne dans une section transversale;

(b) Le prélèvement d'échantillons uniques des sédiments en suspension selon une verticale choisie, afin de determiner la concentration des sédiments les journées où le débit des sédiments en suspension n'est pas mesuré;

(c) Un nombre restreint de mesures du débit des sédiments en suspension avec intégration en un point précis d'un cours d'eau, afin de vérifier les résultats des mesures avec intégration selon la profondeur et afin de déterminer la granulométrie des particules de sédiments dans une section transversale d'un cours d'eau;

(d) L'échantillonnage des matériaux du lit afin d'en déterminer la granulométrie;

(e) La mesure périodique du charriage.

Voici une brève description des éléments susmentionnés.

(a) *Mesure du débit des sédiments en suspension par intégration selon la profondeur*: La méthode permet de déterminer le débit des sédiments en suspension traversant toute une section transversale d'un cours d'eau, la concentration moyenne des sédiments en suspension dans la section transversale et la granulométrie des sédiments en suspension. C'est un fait connu que la concentration des sédiments en suspension augmente généralement avec la profondeur et qu'elle peut varier d'une rive à l'autre d'un cours d'eau.

Avec la méthode d'incréments de débits égaux (IDE), la mesure du débit des sédiments en suspension se fait en divisant une section transversale d'un cours d'eau en au moins cinq tranches où le débit est égal et en prélevant un échantillon représentatif dans chacune d'elles. Le débit des sédiments en suspension (r) pour chaque tranche se calcule en multipliant le débit (q) par la concentration des sédiments en suspension (c):

$$r = q\ c$$

Le débit des sédiments en suspension (R) pour la section transversale est la somme des débits des sédiments des cinq tranches:

$$R = r\ n = q_1c_1 + q_2c_2 + \ldots + q_nc_n$$

La méthode par intégration sur toute la profondeur est employée pour mesurer la concentration des sédiments en suspension. Elle suppose que l'échantillonneur se remplit à un rythme proportionnel au débit de l'eau et qu'en étant déplacé à une vitesse uniforme sur toute la verticale, il reçoit une partie du mélange eau-sédiments a tous les points de celle-ci.

(b) *Prélèvement d'échantillons uniques de sédiments en suspension sur une verticale choisie*: De tels échantillons, constitués chacun de deux bouteilles, sont prélevés régulièrement à l'aide d'appareils intégrateurs, selon la profondeur ou ponctuels, sur une verticale permanente d'une section transversale. Lorsque la concentration des sédiments est très forte, deux ou trois échantillonnages peuvent être effectués chaque jour, alors qu'un seul échantillon peut être prélevé à quelques jours d'intervalle lorsqu'elle est faible. Au cours des périodes où le débit est extrêmement faible, l'échantillonnage peut être limité à un échantillon toutes les quelques semaine ou tous les quelques mois.

(c) *Mesure du débit des sédiments en suspension par la methode ponctuelle*: Un nombre limité de mesures du débit des sédiments en suspension sont faites avec cette méthode. On y a recours a) pour vérifier les valeurs du débit mesurées au moyen de la methode précédente et b) pour obtenir des échantillons en vue de déterminer la granulométrie des sédiments en divers points de la at different points in the cross section. The point-integrating sediment loads are computed by graphical methods.

The relationship between the suspended sediment concentration of the single vertical samples and the average concentration in the cross section determined from the suspended sediment load measurements is established for some stations. Using this relationship, the sediment concentrations of the single vertical samples are adjusted to reflect the average suspended sediment concentration in the cross section. These average sediment concentrations in the cross sections are plotted, and a smooth curve is drawn through the points to obtain a concentration graph. This graph represents the average suspended sediment concentration for the period of record. The daily mean concentrations are determined by automated procedures using a digitizer interfaced with a Digital minicomputer.

The daily suspended sediment loads are computed on the basis of stream discharges and the collected suspended sediment concentrations. The daily suspended sediment loads are expressed in tonnes per day and are obtained by multiplying the daily mean sediment concentration (mg/L), by the daily mean discharge (m^3/s), and the conversion factor, 0.0864.

(d) *Bed Material Sampling*: In a cross section, bed material samples are usually taken in the same sampling verticals as the suspended sediment samples. Often, additional bed material samples are collected at the water edge, the extreme water level or at other points in the cross section. The total number of bed material samples taken in a cross section usually varies between five and nine.

(e) *Bed Load Measurement*: There are several methods available for measurement of bed load (volumetric method, measurement by samplers, method of tracers, method of constricted cross section, study of sound waves, etc.). The measurement methods should be selected in accordance with river regime.

4. *Total Sediment Load*

Sediment transport may be divided into two categories: sediment maintained in suspension in the stream (suspended load), and sediment being carried along the streambed (bed load). To measure the total sediment load, each of these must be measured separately and then totalled. The total sediment load was not computed for this publication.

5. *Sediment Survey Laboratories*

The Water Resources Branch maintain sediment survey laboratories in New Westminster, British Columbia; Regina, Saskatchewan; Guelph, Ontario; and Moncton, New Brunswick. The laboratories are equipped to perform the following analyses:

(a) determination of sediment concentration by (1) filtration method, (2) evaporation method and (3) determination of total dissolved solids by evaporation method.
(b) particle-size distribution analysis by (1) bottom withdrawal tube method, (2) sieving and (3) hydrometer method.

Determination of the sediment concentration by the evaporation method is carried out by evaporating the water from the settled sediment sample, with the results being corrected for dissolved solids. The quantity of dissolved solids is determined by evaporating a portion of the decanted water of a sample. In the filtration method, the suspended sediment concentration of water samples is determined by utilizing Gooch crucibles with a Reeve Angel 934AH filter and a Millipore AP20 prefilter and a vacuum system.

section transversale. Cette méthode fait appel à des graphiques pour le calcul du débit des sédiments.

Le rapport entre la concentration des sédiments en suspension dans les échantillons prélevés sur une seule verticale et la concentration moyenne dans la section transversale, telle que déterminée à partir des mesures du débit des sédiments en suspension, est établi pour quelques stations. Il permet de corriger les concentrations mesurées à une seule verticale de manière à donner la concentration moyenne dans la section transversale. Les concentrations moyennes ainsi déterminées sont reportées sur un graphique, et une courbe lisse passant par les points marqués est tracée. Le graphique obtenu représente la concentration moyenne des sédiments en suspension pour la période de relevé. Les concentrations moyennes quotidiennes sont déterminées automatiquement à l'aide d'un convertisseur analogique-numérique relié à un mini-ordinateur numérique.

Les valeurs journalières du débit des sédiments en suspension sont calculées à partir du débit du cours d'eau et des concentrations des sédiments en suspension recueillis. Elles sont exprimées en tonnes par jour. On les détermine en multipliant la concentration moyenne journalière des sédiments (mg/L) par le débit moyen journalier (m^3/s) et par un facteur de conversion approprié, 0.0864.

(d) *Échantillonnage des matériaux du lit*: Dans une section transversale, les échantillons des matériaux du lit sont ordinairement prélevés aux mêmes verticales que ceux des sédiments en suspension. Souvent, des échantillons supplémentaires sont pris près des rives, là où le niveau d'eau est extrême et à d'autres points de la section transversale. Leur nombre total pour une section donnée varie ordinairement entre cinq et neuf.

(e) *Mesure du charriage*: La mesure peut se faire par plusieurs méthodes (méthode volumétrique, mesure à l'aide d'échantillonneurs, méthode des traceurs, méthode de la section transversale rétrécie, étude des ondes sonores, etc.). Le choix se fondera sur la nature du régime du cours d'eau.

4. *Débit solide total*

Il y a deux catégories de sédiments: les sédiments maintenus en suspension au sein de l'eau (sédiments en suspension), et les sédiments charriés sur le lit d'un cours d'eau (charriage de fond). Les deux types de sédiments doivent être mesurés séparément et leurs valeurs additionnées si on veut mesurer le débit total des sédiments. Toutefois, on ne l'a pas calculé aux fins de la présente publication.

5. *Laboratoires d'analyse*

La Direction des ressources en eau possède des laboratoires d'analyse des sédiments à New Westminster (Colombie-Britannique), Regina (Saskatchewan), Guelph (Ontario) et Moncton (Nouveau-Brunswick). Les laboratoires disposent des appareils nécessaires pour effectuer les analyses suivantes:

(a) la détermination de la concentration des sédiments par (1) filtration, (2) évaporation, et (3) détermination des matières dissoutes totales par évaporation.
(b) l'analyse granulométrique (1) par extraction des sédiments déposés dans un tube, (2) par l'emploi de tamis et (3) par l'utilisation d'un hydromètre.

La méthode par évaporation consiste à faire évaporer l'eau d'un échantillon de sédiments décanté et à corriger les resultats pour tenir compte des matières dissoutes. La quantité de celles-ci est déterminée en faisant évaporer une partie de l'eau de l'échantillon décanté. Dans la methode par filtration, on utilise sous vide des creusets de Gooch munis d'un filtre Reeve Angel 934AH et d'un préfiltre Millipore AP20.

Particle-size analysis was carried out for some suspended sediment samples having gross weights in the range of 0.15 to 5 g using the Bottom Withdrawal Tube method. The particle-size distribution of the Bottom Withdrawal Tube method ranges from 0.002 to 1.000 mm. The Sieve analysis method may be used for samples with a large amount of material coarser than 0.062 mm.

The particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)
Clay	0.000 24 - 0.004
Silt	0.004 - 0.062
Sand	0.062 - 2.0
Gravel	2.0 - 64.0

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analyzed in distilled water. Chemical dispersion is not used for native-water analysis.

6. *Accuracy and Reliability of Field Data and Computed Results*

The overall accuracy and degree of reliability of the sediment data is dependent upon many factors. Some of the more important of these are:

(a) accuracy and reliability of streamflow records;
(b) regime of the river;
(c) type of sampling equipment used to collect the suspended sediment samples;
(d) frequency of suspended sediment discharge measurements;
(e) frequency of individual sampling;
(f) quality of the relationship between the average suspended sediment concentration in the cross section and the concentration of the individual samples;
(g) frequency and method of bed material sampling;
(h) frequency and method of bed load measurements;
(i) accuracy and reliability of the laboratory analysis;
(j) selected methods of computation of the suspended sediment discharge;
(k) interpretation and extrapolation of sediment records.

An assessment of the quality of the records can be made by an examination of the occurrence of the symbol (S) on the daily mean concentrations.

In general, data collected during open-water periods are more reliable than those collected during periods of ice conditions or those records obtained by estimation. Further, water level data collected utilizing a water-stage recorder are more reliable and accurate than those using a manual gauge only, especially for small or flashy streams.

Une analyse granulométrique a été effectuée pour certains échantillons de sédiments en suspension ayant un poids brut dans l'intervalle de 0.15 à 5 g par la méthode de la burette (extraction des sédiments déposés, à divers intervalles). La distribution de la taille des particules déterminée par cette méthode varie de 0.002 a 1.000 mm. La méthode de tamisage peut être employée pour les échantillons ayant une forte quantité de particules de taille supérieure à 0.062 mm.

La classification granulométrique qui est utilisée dans la présente publication est conforme aux recommandations faites par l'*American Geophysical Union Subcommittee on Sediment Terminology*. La classification est la suivante:

Classification	Taille (mm)
Argile	0.000 24 - 0.004
Limon	0.004 - 0.062
Sable	0.062 - 2.0
Gravier	2.0 - 64.0

La répartition granulométrique qui est fournie dans cette publication, n'est pas obligatoirement représentative de toutes les particules qui sont transportées par un cours d'eau donné. La plupart des matières organiques sont extraites de l'échantillon qui est ensuite soumis à une dispersion mécanique et chimique avant d'être analysé dans de l'eau distillée. La dispersion chimique ne sert pas à l'analyse de l'eau naturelle.

6. *Exactitude des données et des résultats*

L'exactitude des données sur les sédiments dépend de nombreux facteurs. On peut citer, parmi les plus importants:

(a) l'exactitude des données sur les débits;
(b) le régime d'un cours d'eau;
(c) le type d'appareil d'échantillonnage utilisé pour prélever les échantillons de sédiments en suspension;
(d) la fréquence des mesures du débit des sédiments en suspension;
(e) la fréquence des échantillonnages isolés;
(f) la qualité du rapport entre la concentration moyenne des sédiments en suspension dans une section transversale et la concentration des échantillons isolés;
(g) la fréquence des échantillonnages des matériaux de fond et la méthode utilisée;
(h) la fréquence des mesures du charriage de fond et la méthode utilisée;
(i) l'exactitude des analyses de laboratoire;
(j) les méthodes de calcul du débit des sédiments en suspension;
(k) l'interprétation et l'extrapolation des données sur les sédiments.

La qualité des données peut être évaluée d'après la fréquence d'utilisation du symbole (S), avec les données sur la concentration journalière moyenne.

En général, les données recueillies au cours des périodes d'eau libre sont plus sûres que celles qui sont obtenues au cours des periodes de glaces ou par estimation. De plus, les données sur le niveau des eaux qui sont mesurees à l'aide d'un limnigraphe sont plus certaines et plus exactes que celles qui sont mesurees à l'aide d'une jauge manuelle seulement, surtout dans le cas des petits cours d'eau ou des cours d'eau à crues très rapides.

APPENDIX B

Statistical Tests

This appendix contains the results of the statistical tests applied to the flow data using the Consolidated Frequency Analysis Package (Pilon *et al*. 1985).

```
         --- SPEARMAN TEST FOR TREND ---

02HC025            HUMBER RIVER AT ELDER MILLS
ANNUAL MEAN FLOW SERIES 1963 TO 1985    DRAINAGE AREA = 303.0000


SPEARMAN RANK ORDER CORRELATION COEFF = -0.659    D.F. = 21
            CORRESPONDS TO STUDENTS T = -4.0111
         CRITICAL T VALUE AT 5% LEVEL = -2.080         SIGNIFICANT
         CRITICAL T VALUE AT 1% LEVEL = -2.831         SIGNIFICANT

Interpretation:  The null hypothesis is that the correlation is zero.

At the 1% level of significance, the correlation is significantly
different from zero.  That is the data display a highly significant trend.
```

```
         --- MANN-WHITNEY SPLIT TEST FOR HOMOGENEITY ---

02HC025            HUMBER RIVER AT ELDER MILLS
ANNUAL MEAN FLOW SERIES 1963 TO 1985    DRAINAGE AREA = 303.0000


SPLIT BY TIME SPAN, SUBSAMPLE 1 SAMPLE SIZE =  9 (1963-1971)
                    SUBSAMPLE 2 SAMPLE SIZE = 14 (1972-1985)

                                   MANN-WHITNEY U = 20.0
         CRITICAL U VALUE AT 5% SIGNIFICANT LEVEL = 36.0     SIGNIFICANT
         CRITICAL U VALUE AT 1% SIGNIFICANT LEVEL = 26.0     SIGNIFICANT


Interpretation:    The null hypothesis is that there is no location
                   difference between the two samples.

At the 1% level of significance, the hypothesis of no location difference
between the samples is rejected.
```

APPENDIX C

Particle Size Data

This appendix contains the complete suspended sediment and bed material particle size data set in a tabular format.

WATER SURVEY OF CANADA
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SEDIMENT SURVEY SECTION

STATION NO. 02HC025

HUMBER RIVER AT ELDER MILLS

DEPTH INTEGRATING PARTICLE SIZE ANALYSIS OF SUSPENDED SEDIMENT

SAMPLE IDENTIFIER DATE			SAMPLE IDENTIFIER TIME	DISCHARGE (M3/S)		CONC. (MG/L)		PERCENT FINER THAN INDICATED SIZE, IN MICROMETRES 2	4	8	16	31	62	125	250	500	1000	2000	TOTAL D50	TOTAL GDG	SAND D50	SAND GDG	PERCENT CLAY	PERCENT SILT	PERCENT SAND
MAR	1	1966	1745	7.08	H	495	K	24	36	57	76	84	89	94	98	100			6.5	*	135.5	1.8	36	53	11
MAR	2	1966	1035	7.14		275	R	20	32	54	75	83	88	94	98	99	100		7.2	*	125.0	1.8	32	56	12
DEC	9	1966	1055	4.02	H	260	R	22	34	58	84	93	97	99	100				6.6	*	84.8	1.7	34	63	3
JAN	25	1967	1555	5.32		270	K	14	21	42	73	86	94	98	100				9.6	3.0	85.5	1.7	21	73	6
MAR	10	1967	1530	1.25	H	250	R	29	36	61	85	92	95	98	99	100			6.3	*	107.3	2.1	36	59	5
MAR	28	1967	1600	10.5		705	K	06	08	22	46	72	85	92	98	99	100		17.8	2.8	129.7	1.6	8	77	15
MAR	29	1967	1530	10.6		1 080	K	08	11	22	41	69	86	92	97	99	100		20.4	2.9	139.1	1.9	11	75	14
MAR	31	1967	1500	9.51		1 250	K	06	08	16	31	54	74	90	98	100			28.0	3.5	109.6	1.5	8	66	26
JUN	11	1967	1100	6.97		880	K	11	16	32	61	82	93	98	100				12.5	2.9	90.6	1.6	16	77	7
JUL	2	1967	2100	6.12		545	K	27	39	60	80	88	92	96	99	100			5.9	*	125.0	1.7	39	53	8
JUL	3	1967	2200	8.81		465	K	25	31	59	78	87	93	96	99	100			6.8	*	135.4	1.6	31	62	7
JUL	9	1967	1710	2.11		2 710	K	26	37	58	87	98	99	100					6.4	*	98.6	1.2	37	62	1
AUG	28	1967	1000	4.47		580	K	11	16	33	64	89	97	99	99	100			12.0	2.5	104.4	2.3	16	81	3
OCT	17	1967	1630	2.54	H	199	K	25	35	54	78	89	93	96	98	99	100		7.1	*	150.2	2.5	35	58	7
OCT	19	1967	1400	5.92	H	178	K	17	21	44	69	83	90	94	95	98	99		9.1	*	250.0	2.8	21	69	10
NOV	3	1967	1000	4.90	H	175	K	19	29	52	76	88	94	98	99	100			7.6	*	100.7	1.9	29	65	6
MAR	20	1968	1645	17.9		1 180	R	10	14	28	47	63	74	84	94	96	98		18.0	5.2	149.9	2.2	14	60	26
JUN	26	1968	0930	3.31	H	262	K	13	22	47	80	93	95	99	100				8.5	2.6	96.8	1.3	22	73	5
AUG	23	1968	1230	9.60	H	1 890	K	26	35	56	76	89	97	100					6.8	*	82.5	1.3	35	62	3
DEC	4	1968	1700	5.44	H	355	K	19	28	47	70	83	91	96	98	100			8.7	*	110.4	2.1	28	63	9
MAR	19	1969	1530	13.5	H	565	K	09	22	40	56	72	82	88	93	96	98		12.0	5.2	175.5	2.8	22	60	18
MAR	21	1969	1700	27.5	H	1 200	K	13	24	39	56	68	80	88	93	96	100		12.5	5.6	170.5	2.9	24	56	20
MAR	22	1969	1700	18.4	H	591	K	10	16	32	54	74	88	92	96	99	100		14.1	3.4	197.2	2.1	16	72	12
MAR	24	1969	1100	13.9	H	572	K	05	12	29	51	71	88	97	99	100			15.5	3.2	89.7	1.5	12	76	12
MAR	25	1969	1100	14.0		721	R	08	14	26	45	62	80	93	98	100			19.0	3.9	98.2	1.7	14	66	20
MAR	25	1969	1400	15.2	H	717	K	06	11	24	45	66	84	96	99	99	100		18.6	3.3	93.0	1.5	11	73	16
MAR	25	1969	1430	15.1		739	R	06	13	28	49	66	82	93	98	99	100		16.5	3.8	103.0	1.7	13	69	18
MAR	28	1969	1500	5.83	H	174	K	09	19	41	65	80	89	94	97	99	100		10.1	3.4	137.9	2.2	19	70	11
APR	2	1969	1200	14.2	H	553	K	25	31	46	65	80	92	96	98	99	100		9.2	*	125.0	2.4	31	61	8
APR	5	1969	1500	22.7	H	766	K	09	15	30	46	67	83	96	99	99	100		18.8	3.9	99.0	1.4	15	68	17
APR	18	1969	1230	21.9	H	2 780	K	16	26	39	55	72	87	96	99	99	100		13.1	5.1	95.8	1.5	26	61	13
APR	18	1969	1500	21.9	H	3 650	R	11	17	28	44	63	81	93	98	99	100		19.9	4.4	103.3	1.6	17	64	19
APR	9	1970	0800	13.6	H	1 300	K	11	17	34	55	75	87	94	98	100			13.4	3.5	119.4	1.7	17	70	13
APR	9	1970	1715	13.6	H	833	K	16	21	33	56	76	90	96	99	100			13.7	4.7	96.3	1.8	21	69	10
MAY	26	1970	1150	3.31	H	2 310	K	52	63	86	97	98	99	100					*	*	80.3	1.2	63	36	1
AUG	13	1970	1650	1.19	H	3 290	K	38	50	73	92	97	99	100					4.0	*	74.9	1.2	50	49	1
MAR	16	1971	0915	5.89	H	367	K	14	19	33	49	62	73	83	94	97	99		16.8	6.8	155.3	1.9	19	54	27
APR	2	1971	0930	15.7	H	1 450	K	09	16	33	58	78	90	95	98	99	100		12.9	3.2	125.0	2.0	16	74	10
APR	2	1971	1230	17.2		2 850	K	07	09	17	29	45	68	88	96	99	100		36.5	3.7	104.4	1.7	9	59	32
APR	2	1971	1300	17.2		2 950	R	07	11	22	36	56	76	89	95	99	100		26.2	4.0	116.7	2.0	11	65	24

DISCHARGE FOOTNOTE SYMBOLS
BLANK - INSTANTANEOUS
H - DAILY MEAN

CONCENTRATION FOOTNOTE SYMBOLS
R - SAMPLES COLLECTED IN SEVERAL VERTICALS
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GDG (GRADING) = SQUARE ROOT (D84/D16)
* - UNABLE TO COMPUTE DUE TO INSUFFICIENT DATA

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SEDIMENT SURVEY SECTION

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

DEPTH INTEGRATING PARTICLE SIZE ANALYSIS OF SUSPENDED SEDIMENT

SAMPLE IDENTIFIER DATE	TIME	DISCHARGE (M3/S)	CONC. (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MICROMETRES 2	4	8	16	31	62	125	250	500	1000	2000	TOTAL D50	TOTAL GDG	SAND D50	SAND GDG	PERCENT CLAY	PERCENT SILT	PERCENT SAND
MAR 23 1972	1430	3.74 H	128 K	10	16	38	61	71	79	89	94	96	99		10.8	4.7	130.0	2.7	16	63	21
APR 4 1972	1100	5.38 H	453 K	09	15	32	52	66	76	82	90	93	97		14.7	6.0	213.5	3.1	15	61	24
APR 11 1972	1240	15.1 H	2 530 K	06	12	19	33	51	74	90	97	100			29.9	3.8	100.8	1.8	12	62	26
APR 13 1972	0915	32.8 H	1 020 K	11	17	34	55	72	84	89	95	97	99		13.3	4.1	185.2	2.8	17	67	16
APR 13 1972	1330	32.3	1 450 R	14	20	34	55	74	86	93	96	98	99		13.7	4.4	125.0	2.5	20	66	14
APR 13 1972	1335	32.8 H	1 540 K	13	20	33	52	70	84	91	97	99	100		15.0	4.7	144.3	1.9	20	64	16
APR 13 1972	1810	32.8 H	2 000 K	08	12	25	43	63	78	89	97	98	99		20.5	4.1	125.0	1.7	12	66	22
APR 14 1972	0915	36.5 H	1 430 K	11	15	27	45	61	74	81	89	93	96		19.4	6.2	215.3	3.4	15	59	26
APR 14 1972	1405	32.3	1 000 R	11	17	33	56	76	86	93	96	98	99		13.4	3.6	125.0	2.4	17	69	14
APR 14 1972	1410	36.5 H	933 K	08	13	26	47	73	86	92	99	99	100		17.4	3.0	134.7	1.5	13	73	14
APR 16 1972	1330	15.9	517 R	14	21	38	59	76	88	95	98	100			11.7	4.2	109.7	1.9	21	67	12
APR 16 1972	1725	18.0 H	387 K	15	21	34	60	69	72	78	87	97	100		12.5	9.3	233.6	2.0	21	51	28
APR 19 1972	0830	18.8 H	329 K	13	22	30	58	73	86	92	97	99	100		13.8	4.7	165.3	2.0	22	64	14
APR 20 1972	0620	13.9 H	328 K	20	22	34	48	60	67	76	85	94	99		18.0	*	212.5	2.3	22	45	33
APR 20 1972	1310	13.9 H	331 K	17	26	43	60	73	81	86	90	93	100		10.3	*	282.6	2.9	26	55	19
APR 21 1972	1325	9.06 H	275 K	16	21	32	48	65	73	78	90	98	100		17.3	9.6	209.1	1.7	21	52	27
JUN 22 1972	1015	4.36 H	626 K	28	38	58	76	93	96	99	100				6.3	*	105.0	1.3	38	58	4
JUN 25 1972	0810	4.93 H	205 K	25	34	52	81	90	95	98	99	100			7.6	*	99.1	2.1	34	61	5
FEB 2 1973	1145	7.33 H	513 K	43	53	69	82	89	92	94	97	99	100		3.4	*	198.2	2.0	53	39	8
MAR 8 1973	1340	16.1 H	5 780 K		03	05	08	10	12	14	24	58	93		440.1	2.2	484.4	1.8	3	9	88
MAR 12 1973	0830	21.0 H	1 830 K	15	19	30	49	58	79	89	96	98	99		16.6	5.4	140.0	2.0	19	60	21
MAR 12 1973	1010	23.6	1 460 R	14	21	34	55	72	89	96	99	100			13.8	4.4	92.4	1.7	21	68	11
MAR 12 1973	1550	21.0 H	1 350 K	15	20	34	53	68	83	93	98	100			14.3	5.2	105.2	1.8	20	63	17
MAR 17 1973	1030	9.71 H	509 K	24	30	44	59	81	88	93	96	99	100		10.3	*	141.2	2.2	30	58	12
APR 1 1973	1110	9.34 H	659 K	16	21	33	48	66	81	90	95	97	100		17.5	6.2	131.1	2.5	21	60	19
APR 3 1973	1310	14.1 H	413 K	16	21	42	63	81	91	99	100				9.8	4.2	95.6	1.3	21	70	9
MAR 5 1974	1315	45.9 H	2 000 K	16	20	31	44	57	67	79	93	99	100		22.0	8.9	153.2	1.8	20	47	33
MAR 5 1974	1530	48.1	1 940 R	10	16	30	47	66	80	89	94	98	100		18.0	4.6	136.2	2.3	16	64	20
MAR 5 1974	1535	45.9 H	2 020 K	14	21	36	54	70	83	91	96	99	100		13.6	5.1	132.7	2.0	21	62	17
MAR 6 1974	1015	32.0 H	568 K	17	20	41	65	80	92	98	100				9.9	*	88.3	1.5	20	72	8
MAR 6 1974	1130	32.0 H	1 270 K	07	08	21	36	42	54	59	76	96	100		51.5	6.8	256.4	1.6	8	46	46
MAR 6 1974	1250	32.0 H	2 360 K	03	04	10	21	30	39	51	76	96	100		119.5	5.1	215.8	1.8	4	35	61
MAR 7 1974	1410	23.8 H	2 910 K	05	07	14	25	33	44	55	71	87	100		87.3	6.8	258.9	2.4	7	37	56
MAR 7 1974	1420	23.8 H	1 800 K	08	09	20	37	52	69	82	98	99	100		28.3	4.5	142.0	1.7	9	60	31
MAR 8 1974	1220	16.0 H	621 K	05	07	18	38	63	87	98	99	100			22.3	2.7	82.2	1.4	7	80	13
MAR 8 1974	1230	16.0 H	523 K	11	14	29	57	80	94	99	100				13.6	2.8	81.0	1.4	14	80	6
APR 2 1974	1235	6.60 H	996 K	20	22	38	59	78	89	94	97	99	100		11.5	*	134.1	2.2	22	67	11
APR 2 1974	1415	6.60 H	1 180 K	35	37	51	74	89	96	98	99	100			7.8	*	125.0	2.1	37	59	4
APR 4 1974	1900	19.9 H	1 580 K	17	23	34	50	64	77	87	98	100			16.0	*	139.5	1.7	23	54	23
APR 4 1974	1920	19.9 H	1 700 K	13	21	34	48	60	75	84	92	97	100		17.8	6.8	182.2	2.2	21	54	25

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APR 5 1974	1340	16.5 H	695 K	13	21	33	53	70	83	92	98	99	100		14.6	4.9	118.4	1.7	21	62	17
MAY 17 1974	0735	14.9 H	3 360 K	22	30	43	56	67	77	86	95	99	100		11.3	*	151.1	1.9	30	47	23
NOV 19 1974	1310	1.65 H	576 K	40	51	74	91	98	99	100					3.8	*	100.7	1.2	51	48	1
NOV 20 1974	1600	2.59 H	746 K	18	25	41	68	87	93	96	99	100			10.3	*	137.0	1.7	25	68	7
FEB 24 1975	1430	17.0 H	2 430 K	16	25	40	58	71	80	87	94	98	100		11.7	6.7	169.6	2.1	25	55	20
FEB 24 1975	1440	17.0 H	2 620 K	19	24	40	56	66	76	84	91	98	100		11.6	*	187.7	2.2	24	52	24
FEB 25 1975	0945	29.2 H	1 030 K	13	19	29	42	53	62	72	87	96	100		25.2	8.6	193.8	1.9	19	43	38
FEB 25 1975	1600	30.3	1 060 R	12	21	35	52	66	74	83	88	95	100		14.8	6.8	182.1	2.4	21	53	26
APR 19 1975	0900	37.4 H	4 770 K	14	22	33	45	56	67	80	90	98	100		21.4	7.9	151.9	2.1	22	45	33
APR 19 1975	1610	37.4 H	2 610 K	13	19	29	42	54	66	75	87	93	100		24.5	8.5	205.3	2.8	19	47	34
MAR 21 1976	0915	36.5 H	2 330 K	11	15	26	39	52	63	74	85	97	100		28.1	7.3	197.0	2.1	15	48	37
MAR 21 1976	0930	36.5 H	1 920 K	11	17	29	42	54	68	74	81	94	100		25.1	9.0	294.5	2.4	17	51	32
MAR 21 1976	1115	36.5 H	1 590 K	12	18	32	50	65	77	87	95	99	100		16.0	5.5	140.1	1.9	18	59	23
APR 28 1976	1310	6.34 H	2 770 K	06	09	16	29	43	72	93	98	99	100		38.9	3.2	86.2	1.6	9	63	28
MAR 10 1977	1825	18.7 H	1 170 K	09	14	30	49	64	74	77	83	95	100		16.7	7.6	319.0	1.8	14	60	26
MAR 11 1977	1430	16.1 H	900 K	12	20	36	60	78	90	96	98	99	100		12.1	3.8	99.8	2.1	20	70	10
MAR 11 1977	1815	16.1 H	1 080 K	20	24	32	55	69	79	86	95	99	100		14.2	*	180.4	1.9	24	55	21
SEP 25 1977	1030	7.28 H	1 850 K	29	40	62	80	88	91	94	97	99	100		5.7	*	163.2	2.1	40	51	9
MAR 23 1978	1410	6.17 H	914 K	02	07	16	29	41	50	57	62	76	100		62.0	9.0	483.9	2.4	7	43	50
APR 1 1978	0810	23.1 H	1 860 K	03	10	15	28	42	60	78	86	91	94		44.4	4.6	140.4	3.3	10	50	40
APR 1 1978	1410	23.1 H	3 870 K	04	06	11	18	27	43	69	85	95	100		76.7	4.1	133.7	2.2	6	37	57
APR 1 1978	1835	23.1 H	6 190 K	04	09	14	22	30	46	73	88	97	100		69.5	4.2	125.0	2.1	9	37	54
APR 2 1978	1000	15.1 H	1 410 K	01	05	13	25	37	52	71	86	93	100		57.2	4.8	151.3	2.3	5	47	48
APR 2 1978	1450	15.1 H	1 200 K	04	08	16	28	42	56	66	83	96	100		45.0	5.7	212.5	2.0	8	48	44
APR 7 1978	0700	22.3 H	3 990 K	10	16	22	31	38	48	60	79	98	100		68.9	8.5	216.3	1.9	16	32	52
APR 11 1978	1130	12.7 H	1 070 K	23	31	44	59	70	80	90	97	100			10.5	*	125.0	1.8	31	49	20
APR 11 1978	1700	12.7 H	1 270 K	06	10	18	27	39	52	72	87	96	100		55.4	5.4	141.7	2.1	10	42	48
AUG 15 1978	1815	1.21 H	5 610 K	39	50	74	90	97	98	99	100				4.0	*	125.0	1.4	50	48	2
NOV 26 1979	1723	6.43 H	1 290 K	36	39	57	76	81	85	88	93	97	100		6.6	*	238.6	2.6	39	46	15
DEC 25 1979	1716	22.4 H	1 360 K	14	16	29	45	59	75	84	92	96	98		20.5	5.6	178.8	2.6	16	59	25
MAR 21 1980	1039	29.1 H	1 140 K	15	22	35	52	67	81	99	100				14.8	5.5	87.9	1.3	22	59	19
APR 9 1980	1835	11.9 H	1 480 K	15	18	32	54	72	82	89	96	98	100		14.1	5.2	149.3	1.9	18	64	18
APR 14 1980	2136	9.95 H	5 990 K	07	11	17	30	42	63	79	88	93	96		43.3	5.1	156.7	3.1	11	52	37
APR 15 1980	1310	21.0	1 590 K	14	19	29	44	68	81	91	98	100			19.5	5.6	122.1	1.5	19	62	19
APR 15 1980	1818	22.3 H	1 290 K	18	23	26	47	63	75	85	95	98	100		17.2	*	156.4	1.9	23	52	25
MAR 31 1982	1600	37.5 H	2 800 K	11	14	25	42	62	78	86	93	98	99		21.2	4.5	171.4	2.1	14	64	22
MAR 31 1982	1705	37.5 H	3 100 K	06	12	21	35	53	74	88	95	98	100		28.0	4.1	115.0	2.0	12	62	26
MAY 3 1983	1050	16.0	1 040 R	06	11	27	48	71	85	91	95	97	98		17.1	3.2	150.0	3.0	11	74	15

DISCHARGE FOOTNOTE SYMBOLS
BLANK - INSTANTANEOUS
H - DAILY MEAN

CONCENTRATION FOOTNOTE SYMBOLS
R - SAMPLES COLLECTED IN SEVERAL VERTICALS
K - SAMPLE(S) COLLECTED IN A SINGLE VERTICAL

GDG (GRADING) = SQUARE ROOT (D84/D16)
* - UNABLE TO COMPUTE DUE TO INSUFFICIENT DATA

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

BED MATERIAL PARTICLE-SIZE ANALYSIS FOR 1968

DATE	TIME	PANEL DISCHARGE (M3/S)	SAMPLING VERTICAL (M)	TYPE OF SAMPLER	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	4.00	8.00	16.00	32.00	64.00
JUL 04	10:30	0.	0.0	SCOOP	17	22	26	31	37	56	68	78	83	87	91	97	100		
JUL 04	10:35	0.	14.0	SCOOP	15	21	31	46	67	89	97	100							
JUL 04	10:40	0.334	15.5	SCOOP					1	2	5	13	19	26	38	54	76	100	
JUL 04	10:45	0.318	18.6	SCOOP					1	3	11	26	35	42	54	67	83	100	
JUL 04	10:50	0.280	21.6	SCOOP						1	4	12	17	21	30	43	56	83	100
JUL 04	10:55	0.249	24.7	SCOOP					1	2	6	16	23	29	37	47	78	100	
JUL 04	11:00	0.095	28.0	SCOOP				1	2	6	14	24	28	35	49	65	86	100	
JUL 04	11:05	0.	29.6	SCOOP	13	18	27	39	61	87	98	100							
JUL 04	11:10	0.	34.1	SCOOP	5	8	14	26	58	92	100								

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

BED MATERIAL PARTICLE-SIZE ANALYSIS FOR 1969

DATE	TIME	PANEL DISCHARGE (M3/S)	SAMPLING VERTICAL (M)	TYPE OF SAMPLER	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	4.00	8.00	16.00	32.00	64.00
MAY 01	13:50	0.	0.0	LANE	5	7	10	13	19	50	88	100							
MAY 01	13:55	0.628	1.5	LANE					1	2	6	15	24	31	40	50	65	100	
MAY 01	14:00	0.809	4.9	LANE						1	3	16	28	35	42	55	74	100	
MAY 01	14:05	1.53	8.2	LANE							2	8	14	22	29	39	61	100	
MAY 01	14:10	0.889	11.3	LANE					1	2	4	15	25	32	40	48	63	100	
MAY 01	14:15	0.567	14.3	LANE				1	3	5	11	19	24	31	39	51	68	100	
MAY 01	14:20	0.	16.2	LANE	10	14	20	27	42	72	94	100							

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

BED MATERIAL PARTICLE-SIZE ANALYSIS FOR 1974

DATE	TIME	PANEL DISCHARGE (M3/S)	SAMPLING VERTICAL (M)	TYPE OF SAMPLER	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES														
					.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	4.00	8.00	16.00	32.00	64.00
OCT 24	12:05	0.	0.0	SCOOP	9	12	16	23	34	63	85	94	98	99	99	100			
OCT 24	12:10	0.208	4.6	SCOOP				1	4	10	15	24	30	33	36	39	43	100	
OCT 24	12:15	0.724	9.0	SCOOP							2	10	19	27	40	61	78	100	
OCT 24	12:20	0.228	13.7	SCOOP						1	2	6	9	13	19	28	37	100	
OCT 24	12:25	0.	16.8	SCOOP	5	6	8	12	20	63	96	100							

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

BED MATERIAL PARTICLE-SIZE ANALYSIS FOR 1975

DATE	TIME	PANEL DISCHARGE (M3/S)	SAMPLING VERTICAL (M)	TYPE OF SAMPLER	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES														
					.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	4.00	8.00	16.00	32.00	64.00
JUL 09	11:45	0.197	2.4	SCOOP						3	4	8	11	15	20	24	37	72	100
JUL 09	11:50	0.412	4.9	SCOOP					1	2	5	13	19	24	31	42	54	100	
JUL 09	11:55	0.215	7.3	SCOOP						1	3	11	18	23	28	33	38	100	
JUL 09	12:00	0.022	9.8	SCOOP				1	2	9	28	46	59	68	76	79	81	100	

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

BED MATERIAL PARTICLE-SIZE ANALYSIS FOR 1979

DATE	TIME	PANEL DISCHARGE (M3/S)	SAMPLING VERTICAL (M)	TYPE OF SAMPLER	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES														
					.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	4.00	8.00	16.00	32.00	64.00
DEC 06	10:40	0.	0.0	SCOOP	7	11	17	25	32	51	81	92	93	94	95	96	100		
DEC 06	10:45	0.819	4.0	SCOOP						1	4	9	12	17	25	36	46	100	
DEC 06	10:50	0.926	8.0	SCOOP						1	4	10	15	21	30	41	54	100	
DEC 06	10:55	0.528	12.0	SCOOP			1	4	11	21	34	39	41	42	42	46	48	100	
DEC 06	11:00	0.	13.5	SCOOP	10	17	27	44	63	83	96	99	100						

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

BED MATERIAL PARTICLE-SIZE ANALYSIS FOR 1980

DATE	TIME	PANEL DISCHARGE (M3/S)	SAMPLING VERTICAL (M)	TYPE OF SAMPLER	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	4.00	8.00	16.00	32.00	64.00
NOV 17	12:15	1.46	0.0	SCOOP	5	9	14	24	42	68	94	99	100						
NOV 17	12:20		3.5	SCOOP					1	1	3	15	26	37	50	60	75	100	
NOV 17	12:25		7.0	SCOOP					1	1	6	15	25	32	41	49	62	100	
NOV 17	12:30		10.5	SCOOP					2	6	39	46	49	55	60	64	100		
NOV 17	12:35		13.3	SCOOP	5	9	11	15	23	46	86	99	100						

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1966

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
MAR 01	17:45	0.6	7.08	8.8	DH59	495	239	24	36	59	76	84	89	94	98	100			11	53	36
MAR 02	10:15	0.6	1.05	6.1 M	DH59	276	220	20	31	57	79	86	90	93	99	100			10	59	31
MAR 02	10:20	0.6	2.09	8.8 M	DH59	292	226	20	31	53	73	78	83	87	95	98	99	100	17	52	31
MAR 02	10:25	0.6	2.59	12.2 M	DH59	273	215	22	33	56	79	88	91	96	98	99	100		9	58	33
MAR 02	10:30	0.6	1.42	18.3 M	DH59	258	218	19	30	52	72	81	85	93	98	100			15	55	30
MAR 04	11:30	0.6	4.16	8.8	DH48	200	262														
MAR 04	16:30	0.6	4.16	8.8	DH48	170	267														
MAR 09	12:00	0.6	3.11	8.8	DH48	58	307														
MAR 17	12:15	3.9	3.88	8.8	DH48	170	280														
APR 05	15:00	1.1	2.89	8.8	DH48	28	321														
MAY 12	10:50	6.1	1.35	8.8	DH48	6	292														
MAY 16	11:35	7.8	2.00	6.0 M	DH48	22	280														
MAY 16	11:40	7.8	2.00	17.0 M	DH48	23	284														
MAY 16	11:45	7.8	2.00	28.0 M	DH48	24	293														
MAY 16	11:50	7.8	2.11	8.8	DH48	22	303														
MAY 16	11:55	7.8	2.00	51.0 M	DH48	18	286														
JUN 06	13:15	25.0	1.01	8.8	DH48	17	306														
JUN 13	10:15	18.9	1.29	8.8	DH48	18	280														
JUN 21	14:15	22.8	1.26	8.8	DH48	27	289														
JUN 27	15:30	28.9	0.912	8.8	DH48	16	276														
JUL 08	15:00	25.6	0.646	8.8	DH48	32	259														
JUL 12	14:40	28.3	0.722	8.8	DH48	30	239														
JUL 22	14:15	26.1	0.527	8.8	DH48	26	249														
JUL 28	13:00	24.4	0.798	20.1	DH48	91	243														
JUL 28	14:15	24.4	0.178	15.2 M	DH48	61	249														
JUL 28	14:20	24.4	0.170	18.0 M	DH48	59	252														
JUL 28	14:25	24.4	0.184	20.7 M	DH48	57	247														
JUL 28	14:30	24.4	0.122	23.2 M	DH48	48	250														
JUL 28	14:35	24.4	0.144	25.9 M	DH48	50	248														
JUL 31	08:45	20.0	0.748	20.1	DH48	28															
AUG 05	10:00	21.1	0.595	20.1	DH48	31															
AUG 09	15:45	25.6	0.646	20.1	DH48	16	242														
AUG 10	10:30	20.0	0.620	20.1	DH59	23	249														
AUG 16	11:30	22.2	0.748	20.1	DH59	26	256														
AUG 31	17:00	25.6	0.824	26.0 X	DH48	16	255														
SEP 07	20:00	18.3	1.16	26.0 X	DH48	42	266														
SEP 19	09:30	15.6	0.722	26.0 X	DH59	23	258														
SEP 25	16:30	13.9	0.974	26.0 X	DH59	23	265														
OCT 11	11:00	11.1	0.912	20.1	DH59	24	265														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

(CONTINUED)

WATER SURVEY OF CANADA
JUL 31, 1989 PAGE 2
OTTAWA, ONT.

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1966

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
OCT 14	10:00	9.4	0.218	15.2 M	DH59	26	283														
OCT 14	10:05	9.4	0.212	18.0 M	DH59	25	284														
OCT 14	10:10	9.4	1.08	20.1	DH59	16	285														
OCT 14	10:15	9.4	0.328	21.3 M	DH59	19	287														
OCT 14	10:20	9.4	0.173	24.7 M	DH59	16	289														
OCT 14	10:25	9.4	0.153	30.8 M	DH59	15	289														
OCT 21	10:30	5.6	1.13	20.1	DH59	16	308														
OCT 28	14:15	8.9	1.01	20.1	DH59	12	296														
NOV 15	10:20	2.2	0.308	14.9 M	DH48	22	316														
NOV 15	10:25	2.2	0.453	18.3 M	DH48	22	316														
NOV 15	10:30	2.2	1.83	20.1	DH48	22	322														
NOV 15	10:35	2.2	0.518	21.3 M	DH48	22	315														
NOV 15	10:40	2.2	0.382	24.7 M	DH48	29	326														
NOV 15	11:00	2.2	0.170	27.7 M	DH48	23	325														
DEC 09	11:35	2.8	0.518	14.6 M	DH48	262	322	22	34	58	84	93	97	99	100				3	63	34
DEC 09	11:40	2.8	1.18	18.3 M	DH48	260	325	25	38	61	88	95	98	100					2	60	38
DEC 09	11:45	2.8	4.02	20.1	DH48	240	317	19	36	60	84	93	97	99	100				3	61	36
DEC 09	11:50	2.8	1.11	21.9 M	DH48	253	326	26	30	56	80	92	96	99	100				4	66	30
DEC 09	11:55	2.8	0.937	25.6 M	DH48	256	315	18	28	54	82	92	96	98	100				4	68	28
DEC 09	12:00	2.8	0.275	29.3 M	DH48	266	310	26	28	58	84	91	95	96	98	99	100		5	67	28

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1967

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 25	15:55	1.1	5.32	20.1	DH59	272	297	14	21	42	73	86	94	98	100				6	73	21
JAN 28	16:00	1.1	1.38	20.1	DH59	28	331														
FEB 06	15:20	0.6	2.28	20.1	DH59	36	358														
FEB 16	15:00	0.0	1.71	20.1	DH59	34	354														
MAR 10	15:30	0.0	0.207	14.0 M	DH48	218	303	40	48	70	89	95	97	99	100				3	49	48
MAR 10	15:35	0.0	0.396	17.1 M	DH48	230	321	39	46	66	83	91	94	96	98	100			6	48	46
MAR 10	15:40	0.0	0.325	19.2 M	DH48	265	306	18	19	49	86	91	94	98	100				6	75	19
MAR 10	15:45	0.0	1.25	20.1	DH48	253	280	29	36	61	85	92	95	98	99	100			5	59	36
MAR 10	15:50	0.0	0.082	23.2 M	DH48	321	321	28	40	70	93	95	97	99	100				3	57	40
MAR 10	15:55	0.0	0.238	25.9 M	DH48	290	293	28	40	68	86	92	96	99	100				4	56	40
MAR 22	12:30	0.6	2.74	20.1	DH59	107	346														
MAR 28	16:00	1.1	10.5	20.1	DH59	704	258	6	8	22	46	72	85	92	98	99	100		15	77	8
MAR 29	15:30	0.6	10.6	20.1	DH59	1080	258	8	11	22	41	69	86	92	97	99	100		14	75	11
MAR 31	15:00	3.9	9.51	20.1	DH59	1250	272	6	8	16	31	54	74	90	98	100			26	66	8
MAY 01	12:30	6.1	0.334	15.2 M	DH48	26	308														
MAY 01	12:35	6.1	0.368	19.2 M	DH48	20	308														
MAY 01	12:40	6.1	1.72	66.0	DH48	28	293														
MAY 01	12:45	6.1	0.484	21.3 M	DH48	17	293														
MAY 01	12:50	6.1	0.357	24.4 M	DH48	24	293														
MAY 01	12:55	6.1	0.178	27.4 M	DH48	17	291														
MAY 02	20:00	12.8	2.03	20.7	DH59	89	287														
MAY 14	20:30	9.4	2.30	20.7	DH59	35	290														
MAY 15	20:00	12.8	2.03	20.7	DH59	61	283														
MAY 21	17:00	13.9	1.54	20.7	DH59	69	241														
MAY 28	14:00	20.0	1.51	20.7	DH59	92	207														
JUN 01	20:30	21.7	1.32	20.7	DH59	49	256														
JUN 04	21:00	22.2	1.35	20.7	DH59	43	268														
JUN 11	11:00	20.0	6.97	20.7	DH59	882	328	11	16	32	61	82	93	98	100				7	77	16
JUN 12	11:00	23.3	4.42	20.7	DH59	176	256														
JUN 13	13:00	22.8	3.06	20.7	DH59	119	313														
JUN 14	13:00E	23.3	2.22	20.7	DH59	98	306														
JUN 15	12:15	24.4	0.175	15.2 M	DH48	72	308														
JUN 15	12:20	24.4	0.365	18.6 M	DH48	64	290														
JUN 15	12:25	24.4	0.549	21.9 M	DH48	62	296														
JUN 15	12:30	24.4	0.433	25.0 M	DH48	72	312														
JUN 15	12:35	24.4	0.255	28.3 M	DH48	68	315														
JUN 23	13:00	22.8	8.13	20.1	DH59	159	319														
JUL 02	21:00	19.4	6.12	20.1	DH59	543	310	27	39	60	80	88	92	96	99	100			8	53	39
JUL 03	22:00	18.9	8.81	20.1	DH59	464	304	25	31	59	78	87	93	96	99	100			7	62	31
JUL 03	22:05	18.9	8.81	66.0	DH59	1560	285	35	46	70	86	94	96	98	100				4	50	46
JUL 04	08:30	19.4	4.53	20.1	DH59	136	311														

NOTE :

TIME SYMBOL: E - ESTIMATED
VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1967

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JUL 05	09:00	18.3	3.09	20.1	DH59	88	310														
JUL 09	17:00	21.7	2.11	20.1	DH59	2710	288	26	37	58	87	98	99	100					1	62	37
JUL 13	14:00	23.3	0.260	14.6 M	DH48	72	324														
JUL 13	14:05	23.3	0.371	18.0 M	DH48	71	330														
JUL 13	14:10	23.3	0.674	21.3 M	DH48	83	325														
JUL 13	14:15	23.3	0.719	24.7 M	DH48	68	330														
JUL 13	14:20	26.7	0.252	28.0 M	DH48	88	329														
JUL 21	12:00	24.4	1.41	20.1	DH59	60	281														
JUL 31	12:00	23.9	1.07	20.1	DH59	47	277														
AUG 11	13:30	20.6	0.351	15.2 M	DH48	36	294														
AUG 11	13:35	20.6	0.456	18.3 M	DH48	34	293														
AUG 11	13:40	20.6	0.532	21.3 M	DH48	32	290														
AUG 11	13:45	20.6	0.345	24.4 M	DH48	30	288														
AUG 11	13:50	20.6	0.037	27.4 M	DH48	22	286														
AUG 21	21:00	21.1	1.07	28.0 X	DH59	34	266														
AUG 28	10:00	18.3	0.447	28.0 X	DH59	581	291	11	16	33	64	89	97	99	100				3	81	16
SEP 15	21:00	18.3	0.974	28.0 X	DH59	41	286														
SEP 18	14:05	14.4	0.192	14.9 M	DH48	22	280														
SEP 18	14:10	14.4	0.190	17.4 M	DH48	25	286														
SEP 18	14:15	14.4	0.258	19.8 M	DH48	21	289														
SEP 18	14:20	14.4	0.204	22.3 M	DH48	22	290														
SEP 18	14:25	14.4	0.142	24.7 M	DH48	18	286														
SEP 22	10:00	13.9	2.00	28.0 X	DH59	73	281														
OCT 05	14:50		0.277	15.2 M	DH48	13	290														
OCT 05	14:55		0.246	17.7 M	DH48	15	292														
OCT 05	15:00		0.362	20.1 M	DH48	17	292														
OCT 05	15:05		0.249	22.6 M	DH48	19	295														
OCT 05	15:10		0.167	25.0 M	DH48	16	286														
OCT 17	16:30	12.2	2.54	28.0 X	DH59	200	302	25	35	54	78	89	93	96	98	99	100		7	58	35
OCT 19	14:00	9.4	5.92	28.0 X	DH59	180	339	17	21	44	69	83	90	94	95	98	99	100	10	69	21
NOV 01	13:30	6.7	0.328	15.2 M	DH48	21	342														
NOV 01	13:35	6.7	0.501	18.3 M	DH48	22	340														
NOV 01	13:40	6.7	0.682	21.3 M	DH48	20	341														
NOV 01	13:45	6.7	0.498	24.4 M	DH48	19	346														
NOV 01	13:50	6.7	0.246	27.4 M	DH48	18	346														
NOV 03	10:00	8.9	4.90	28.0 X	DH48	175	351	19	29	52	76	88	94	98	99	100			6	65	29
NOV 13	13:30	5.6	2.75	28.0 X	DH48	49	352														
NOV 28	12:05	0.0	1.81	28.0 X	DH48	21	352														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1967

(CONTINUED)

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
DEC 05	14:00	0.0	0.272	14.6 M	DH48	17	351														
DEC 05	14:05	0.0	0.365	17.7 M	DH48	19	347														
DEC 05	14:10	0.0	0.524	20.7 M	DH48	14	345														
DEC 05	14:15	0.0	0.311	23.8 M	DH48	19	357														
DEC 05	14:20	0.0	0.022	27.1 M	DH48	17															
DEC 06	13:30	0.6	1.42	28.0 X	DH59	150	225														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

WATER SURVEY OF CANADA
JUL 31, 1989 PAGE 6
OTTAWA, ONT.

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1968

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 16	12:00	0.0	0.144	14.6 M	DH48	33	335														
JAN 16	12:05	0.0	0.085	17.7 M	DH48	74															
JAN 16	12:10	0.0	0.320	20.7 M	DH48	42	344														
JAN 16	12:15	0.0	0.535	23.8 M	DH48	41	345														
JAN 16	12:20	0.0	0.408	25.3 M	DH48	31	348														
FEB 16	14:30	0.0	1.82	20.1	DH48	29	338														
FEB 26	12:00	0.0	0.205	15.2	DH48	56	352														
FEB 26	12:05	0.0	0.881	47.0 M	DH48	54	351														
FEB 26	12:10	0.0	0.881	50.0 M	DH48	53	351														
FEB 26	12:15	0.0	0.881	52.0 M	DH48	52	349														
FEB 26	12:20	0.0	0.881	54.0 M	DH48	50	350														
FEB 28	12:30	0.0	0.844	13.7 X	DH48	95	337														
MAR 06	10:50	0.0	0.838	14.6 X	DH48	55	318														
MAR 20	16:45	0.0	3.54	13.7 M	DH48	1090	189	10	14	28	47	63	74	84	94	96	98	100	26	60	14
MAR 20	16:50	0.0	4.27	16.8 M	DH48	1220	199	12	16	31	52	66	81	89	96	98	99	100	19	65	16
MAR 20	16:55	0.0	3.59	19.8 M	DH48	1170	190	9	13	27	44	58	69	77	87	94	97	100	31	56	13
MAR 20	17:00	0.0	3.03	22.9 M	DH48	1150	186	9	12	26	45	61	74	83	90	95	97	100	26	62	12
MAR 20	17:05	0.0	3.45	25.9 M	DH48	1240	200	11	16	31	51	67	79	88	96	99	100		21	63	16
APR 18	15:00	13.3	0.283	10.7 M	DH48	28	298														
APR 18	15:05	13.3	0.430	14.0 M	DH48	29	302														
APR 18	15:10	13.3	0.481	17.4 M	DH48	28	306														
APR 18	15:15	13.3	0.521	18.9 M	DH48	37	286														
APR 18	15:20	13.3	0.362	23.8 M	DH48	34	308														
MAY 02	13:00	8.9	2.03	19.8	DH48	28	289														
MAY 07	15:20	10.0	0.549	16.8 M	DH48	26	285														
MAY 07	15:25	10.0	0.345	19.8 M	DH48	23	286														
MAY 07	15:30	10.0	0.280	21.3 M	DH48	16	285														
MAY 07	15:35	10.0	0.277	22.9 M	DH48	24	291														
MAY 07	15:40	10.0	0.263	25.9 M	DH48	19	291														
MAY 07	15:41	10.0	1.81	19.8	DH48	23	276														
MAY 21	10:15	12.2	6.12	19.8	DH48	215	297														
MAY 22	13:30	14.4	3.51	19.8	DH48	60	311														
MAY 27	20:00	12.8	1.81	19.8	DH48	18	297														
MAY 28	08:15	11.1	1.78	19.8	DH59	19	297														
MAY 29	21:00	11.1	2.00	19.8	DH59	23	309														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1968

(CONTINUED)

DATE	TIME	WATER TEMP.	INSTANT. DISCHARGE	SINGLE SAMPLING VERTICAL	TYPE OF SAMPLER	INSTANT. CONCENT.	DISSOLVED SOLIDS	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
		(C)	(M3/S)	(M)		(MG/L)	(MG/L)	.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JUN 03	13:30	16.7	0.492	16.5 M	DH48	13	277														
JUN 03	13:35	16.7	0.368	19.2 M	DH48	12	279														
JUN 03	13:40	16.7	0.212	27.1 M	DH48	14	284														
JUN 03	13:40	16.7	0.450	21.6 M	DH48	12	276														
JUN 03	13:41	16.7	1.89	19.8	DH48	16	277														
JUN 03	13:45	16.7	0.294	24.4 M	DH48	11	274														
JUN 03	20:00	16.7	1.89	19.8	DH48	55	252														
JUN 10	13:30	23.9	1.44	19.8	DH59	39	263														
JUN 14	13:30	20.6	1.41	19.8	DH59	42	274														
JUN 17	20:00	18.3	1.32	19.8	DH59	27	273														
JUN 19	13:15	21.1	1.25	19.8	DH59	32	269														
JUN 21	14:00	13.9	1.22	19.8	DH59	37	267														
JUN 23	11:30	17.8	1.92	19.8	DH59	85	274														
JUN 25	20:30	17.8	1.47	19.8	DH59	65	279														
JUN 26	09:30	16.1	2.83	19.8	DH59	260	308	13	22	47	80	93	95	99	100				5	73	22
JUN 26	15:45	17.8	3.31	19.8	DH59	360	303														
JUN 27	20:30	16.7	3.77	19.8	DH59	170	299														
JUN 28	13:30	17.2	2.54	19.8	DH59	150	294														
JUN 29	16:30	19.4	2.11	19.8	DH59	70	301														
JUL 04	10:10	15.6	0.297	15.5 M	DH48	53	297														
JUL 04	10:15	15.6	0.275	18.6 M	DH48	52	299														
JUL 04	10:20	15.6	0.359	21.6 M	DH48	58	299														
JUL 04	10:25	15.6	0.226	24.7 M	DH48	53	291														
JUL 04	10:30	15.6	0.119	28.0 M	DH48	47	295														
JUL 04	10:35	15.6	1.28	19.8	DH48	60	292														
JUL 07	10:45	19.4	1.96	19.8	DH59	100	281														
JUL 09	20:00	23.3	1.32	19.8	DH59	56	250														
JUL 10	12:00	22.8	1.61	19.8	DH59	70	261														
JUL 16	21:00	29.4	1.04	19.8	DH59	47	243														
JUL 19	11:00	23.9	1.10	19.8	DH59	90	264														
JUL 26	21:00	24.4	1.04	19.8	DH59	36	249														
AUG 01	14:30	23.3	1.44	19.8	DH59	75	248														
AUG 07	07:30	23.3	0.277	15.5 M	DH48	64	261														
AUG 07	07:40	23.3	0.303	18.6 M	DH48	64	256														
AUG 07	07:50	23.3	0.365	21.6 M	DH48	53	266														
AUG 07	08:00	23.3	0.235	24.7 M	DH48	65	258														
AUG 07	08:10	23.3	0.094	27.7 M	DH48	62	269														
AUG 07	08:20	23.3	1.27	19.8	DH48	68	246														
AUG 08	12:05	24.4	1.35	19.8	DH59	75	269														
AUG 13	12:55	23.9	0.881	19.8	DH59	60	254														
AUG 16	13:00	21.1	0.824	19.8	DH59	55	255														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1968

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
AUG 20	13:30	23.9	1.10	19.8	DH59	47	268														
AUG 22	12:15	21.1	1.22	19.8	DH59	35	268														
AUG 23	12:30	18.3	9.60	19.8	DH59	1890	255	26	35	56	76	87	97	100					3	62	35
AUG 24	14:30	22.2	5.78	19.8	DH59	275	276														
SEP 02	13:45	18.9	1.29	19.8	DH59	26	278														
SEP 03	14:30	20.6	2.03	19.8	DH59	51	271														
SEP 04	08:20	20.6	1.92	19.8	DH59	47	275														
SEP 11	12:05	17.2	1.74	19.8	DH59	29	276														
SEP 13	10:00	16.1	0.297	14.0 M	DH48	44	294														
SEP 13	10:05	16.1	0.427	18.0 M	DH48	43	298														
SEP 13	10:10	16.1	0.654	21.0 M	DH48	36	300														
SEP 13	10:15	16.1	0.453	24.4 M	DH48	36	306														
SEP 13	10:20	16.1	0.258	27.4 M	DH48	34	303														
SEP 15	12:00	18.9	1.01	20.1	DH59	33	245														
SEP 26	09:30	15.6	1.71	20.1	DH59	43	282														
SEP 30	11:55	13.3	1.32	20.1	DH59	17	293														
OCT 03	12:30	17.2	1.35	20.1	DH59	21	271														
OCT 03	12:35	17.2	0.266	14.9 M	DH48	28	269														
OCT 03	12:40	17.2	0.334	18.3 M	DH48	25	270														
OCT 03	12:45	17.2	0.450	21.3 M	DH48	28	262														
OCT 03	12:50	17.2	0.300	24.4 M	DH48	27	267														
OCT 03	12:55	17.2	0.232	27.4 M	DH48	29	265														
OCT 07	11:30	10.6	1.61	20.1	DH59	18	288														
OCT 13	17:15	13.9	1.10	20.1	DH59	25	272														
OCT 20	17:30	12.8	2.11	20.1	DH59	75	296														
OCT 23	13:30	11.7	1.25	20.1	DH59	6	305														
OCT 31	16:15	6.1	1.32	20.1	DH59	28	274														
NOV 01	13:20	13.3	0.311	14.6 M	DH48	22	262														
NOV 01	13:25	13.3	0.365	18.0 M	DH48	18	265														
NOV 01	13:30	13.3	1.32	59.0 M	DH48	20	271														
NOV 01	13:35	13.3	0.458	21.0 M	DH48	29	266														
NOV 01	13:40	13.3	0.323	24.1 M	DH48	21	264														
NOV 01	13:45	13.3	0.167	27.4 M	DH48	24	266														
DEC 02	15:00	2.2	0.416	14.0 M	DH48	100	306														
DEC 02	15:05	2.2	0.991	18.3 M	DH48	59	316														
DEC 02	15:10	2.2	0.951	21.3 M	DH48	58	317														
DEC 02	15:15	2.2	0.937	24.7 M	DH48	57	313														
DEC 02	15:20	2.2	0.507	28.0 M	DH48	56	320														
DEC 02	15:25	2.2	3.79	20.1	DH48	57	320														
DEC 04	17:00	0.0	6.71	20.1	DH59	355	312	19	28	47	70	83	91	96	98	100			9	63	28
DEC 11	17:00	0.0	2.30	20.1	DH59	145	270														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1969

(CONTINUED)

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
DEC 17	17:00	0.0	6.48	20.1	DH59	143	205														
DEC 23	17:00	0.0	1.61	20.1	DH59	125	196														

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1969

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 02	03:30	0.0	9.34	20.1	DH48	66	350														
JAN 21	02:00	0.0	5.47	20.1	DH59	64	305														
JAN 30	05:00	1.1	3.62	20.1	DH59	43	381														
FEB 03	02:00	1.1	0.450	14.0 M	DH48	38	320														
FEB 03	02:05	1.1	0.804	16.5 M	DH48	42	312														
FEB 03	02:10	1.1	0.954	19.2 M	DH48	43	326														
FEB 03	02:15	1.1	3.99	20.1	DH48	50	316														
FEB 03	02:20	1.1	1.03	21.3 M	DH48	42	316														
FEB 03	02:25	1.1	0.747	23.8 M	DH48	32	317														
FEB 20	17:30	0.0	2.14	20.1	DH59	31	348														
FEB 28	17:00	0.0	1.95	20.1	DH59	52	305														
MAR 03	14:30	0.0	1.81	20.1	DH48	41	339														
MAR 03	14:35	0.0	0.190	14.3 M	DH48	37	313														
MAR 03	14:40	0.0	0.365	16.8 M	DH48	33	309														
MAR 03	14:45	0.0	0.475	19.2 M	DH48	42	274														
MAR 03	14:50	0.0	0.538	21.6 M	DH48	40	301														
MAR 03	14:55	0.0	0.241	24.1 M	DH48	45	277														
MAR 08	15:00	0.0	1.61	20.1	DH59	37	316														
MAR 17	17:30	0.6	2.30	20.1	DH59	169	308														
MAR 18	17:00	1.7	6.00	20.1	DH59	413	257														
MAR 19	15:30	0.0	10.9	20.1	DH59	576	160	9	22	40	56	72	82	88	93	96	98	100	18	60	22
MAR 21	17:00	0.0	33.1	20.1	DH59	1230	162	13	24	39	56	68	80	88	93	96	100		20	56	24
MAR 22	17:00	0.0	16.0	20.1	DH59	615	227	10	16	32	54	74	88	92	96	99	100		12	72	16
MAR 24	11:00	1.1	12.3	20.1	DH59	595	222	5	12	29	51	71	88	97	99	100			12	76	12
MAR 25	11:00	3.3	4.50	15.2 M	DH48	659	260	7	13	24	43	65	84	96	100				16	71	13
MAR 25	11:05	3.3	4.13	20.1 M	DH48	688	235	7	13	27	46	62	82	93	98	100			18	69	13
MAR 25	11:10	3.3	5.41	24.4 M	DH48	797	240	9	15	27	45	58	74	90	98	100			26	59	15
MAR 25	14:00	2.2	15.1	20.1	DH48	717	248	6	11	24	45	66	84	96	100				16	73	11
MAR 25	14:05	2.2	2.00	12.8 M	DH48	681	286	7	15	29	50	70	88	97	100				12	73	15
MAR 25	14:10	2.2	4.58	17.1 M	DH48	753	278	6	12	26	47	66	81	91	97	99	100		19	69	12
MAR 25	14:15	1.1	4.30	21.6 M	DH48	759	245	6	11	28	47	64	81	92	98	100			19	70	11
MAR 25	14:20	1.1	3.68	26.5 M	DH48	742	258	6	13	28	50	67	80	93	98	100			20	67	13
MAR 25	14:25	1.1	0.535	30.8 M	DH48	652	232	13	21	39	60	71	85	97	98	100			15	64	21
MAR 26	15:00	1.1	11.6	20.1	DH59	441	257														
MAR 28	15:00	0.0	5.24	20.1	DH59	181	287	9	19	41	65	80	89	94	97	99	100		11	70	19
APR 02	12:00	0.0	8.55	20.1	DH59	553	280	25	31	46	65	80	92	96	98	99	100		8	61	31
APR 05	15:00	3.9	15.7	20.1	DH59	743	242	9	15	30	46	67	83	96	99	99	100		17	68	15
APR 07	14:00	6.1	8.27	20.1	DH59	203	238														
APR 10	12:00	8.9	7.19	20.1	DH59	260	214														
APR 17	14:40	11.1	3.65	20.1	DH59	86	285														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1969

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
APR 18	12:30	4.4	22.7	20.1	DH59	2610	288	16	26	39	55	72	87	96	99	99	100		13	61	26
APR 18	15:00	3.3	2.07	11.0 M	DH59	3840	324	11	15	25	38	58	82	92	97	99	100		18	67	15
APR 18	15:05	3.3	5.74	15.2 M	DH59	3030	277	12	18	30	45	64	82	95	99	100			18	64	18
APR 18	15:10	3.3	5.63	19.2 M	DH59	3660	438	11	16	25	42	62	80	94	99	99	100		20	64	16
APR 18	15:15	3.3	5.15	22.9 M	DH59	4030	282	10	16	27	40	57	74	88	96	99	100		26	58	16
APR 18	15:20	3.3	5.38	26.5 M	DH59	3880	178	13	19	30	46	62	78	91	98	99	100		22	59	19
APR 18	15:25	3.3	2.59	30.5 M	DH59	3710	297	10	16	29	46	63	82	94	98	99	100		18	66	16
APR 18	15:30	3.3	0.396	34.1 M	DH59	3280	278	14	20	33	53	72	90	99	99	100			10	70	20
APR 18	12:30	4.4	22.7	66.0	DH59	2780	288	16	26	39	55	72	87	96	99	99	100		13	61	26
APR 22	15:30	11.1	4.39	20.1	DH59	103	275														
APR 23	11:30	9.4	4.08	20.1	DH59	77	283														
APR 25	15:00	12.8	4.45	20.1	DH59	84	283														
APR 29	13:30	10.6	8.07	20.1	DH59	260	260														
MAY 01	13:10	14.4	0.470	14.6 M	DH48	58	304														
MAY 01	13:15	14.4	0.968	18.0 M	DH48	59	310														
MAY 01	13:20	14.4	4.41	20.1	DH48	43	289														
MAY 01	13:25	14.4	1.36	21.3 M	DH48	50	304														
MAY 01	13:30	14.4	1.02	24.4 M	DH48	51	297														
MAY 01	13:35	14.4	0.611	27.4 M	DH48	51	291														
MAY 07	10:30	1.7	2.46	20.1	DH59	37	333														
MAY 12	09:30	10.0	4.39	20.1	DH59	86	244														
MAY 20	20:00	13.9	5.66	20.1	DH59	97	288														
MAY 28	13:00	18.9	2.18	20.1	DH59	25	258														
JUN 01	15:00	20.0	1.89	20.1	DH59	15	270														
JUN 02	12:40	14.4	1.82	20.1	DH48	12	293														
JUN 02	12:45	14.4	0.283	15.2 M	DH48	14	283														
JUN 02	12:50	14.4	0.478	18.3 M	DH48	12	285														
JUN 02	12:55	14.4	0.498	21.3 M	DH48	14	309														
JUN 02	13:00	14.4	0.342	24.4 M	DH48	38	295														
JUN 02	13:10	14.4	0.216	27.4 M	DH48	13	270														
JUN 06	10:30	14.4	2.07	20.1	DH48	19	294														
JUN 13	15:30	23.9	1.51	20.1	DH48	10	275														
JUN 19	15:00E	16.1	2.14	20.1	DH48	37	264														
JUN 30	15:00E	23.3	1.82	20.1	DH48	71	270														
JUL 08	12:55	23.3	0.291	2.7 M	DH48	11	233														
JUL 08	13:00	23.3	0.320	5.8 M	DH48	8	253														
JUL 08	13:05	23.3	0.416	8.8 M	DH48	9	247														
JUL 08	13:10	23.3	0.226	11.9 M	DH48	9	261														
JUL 08	13:15	23.3	0.133	14.9 M	DH48	5	249														
JUL 11	14:00E	21.7	1.25	20.1	DH48	62	224														
JUL 19	14:00E	25.6	1.02	20.1	DH48	57	263														

NOTE :

TIME SYMBOL: E - ESTIMATED
VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1969

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JUL 30	14:00E	21.7	2.34	20.1	DH48	120	295														
AUG 05	14:00E	25.6	0.714	20.1	DH48	13	252														
AUG 06	10:30	26.1	0.277	14.9 M	DH48	33	262														
AUG 06	10:35	26.1	0.348	18.0 M	DH48	31	270														
AUG 06	10:40	26.1	0.487	21.0 M	DH48	34	272														
AUG 06	10:45	26.1	0.264	24.1 M	DH48	34	265														
AUG 06	10:50	26.1	0.207	27.1 M	DH48	28	266														
AUG 06	10:55	26.1	1.58	20.1	DH48	32	265														
SEP 07	14:00E	22.8	0.963	20.1	DH48	27	240														
SEP 16	14:00	20.0	0.266	4.9 M	DH48	35	239														
SEP 16	14:05	20.0	0.226	7.3 M	DH48	29	233														
SEP 16	14:10	20.0	0.283	10.4 M	DH48	37	255														
SEP 16	14:15	20.0	0.093	13.4 M	DH48	45	250														
SEP 16	14:20	20.0	0.125	15.8 M	DH48	43	234														
SEP 16	14:25	20.0	0.993	20.1	DH48	33	230														
SEP 17	14:00E	21.1	3.28	20.1	DH48	355	266														
OCT 21	12:50	10.0	0.308	15.8 M	DH48	21	281														
OCT 21	12:55	10.0	0.566	12.8 M	DH48	21	290														
OCT 21	13:00	10.0	0.781	9.8 M	DH48	23	298														
OCT 21	13:05	10.0	0.532	6.7 M	DH48	24	300														
OCT 21	13:10	9.4	0.272	3.7 M	DH48	28	304														
OCT 21	13:15	9.4	2.46	20.1	DH48	35	285														
OCT 31	13:00E	3.3	1.38	20.1	DH48	12	283														
NOV 03	13:00E	8.9	4.45	20.1	DH48	10	295														
NOV 04	13:00E	8.3	2.78	20.1	DH48	43	310														
NOV 05	13:00E	9.4	2.58	20.1	DH48	28	329														
NOV 06	13:30	5.6	0.280	2.7 M	DH48	18	297														
NOV 06	13:35	5.6	0.490	6.1 M	DH48	15	299														
NOV 06	13:40	5.6	0.577	9.1 M	DH48	14	308														
NOV 06	13:45	5.6	0.447	12.2 M	DH48	16	316														
NOV 06	13:50	5.6	0.266	15.2 M	DH48	17	309														
NOV 06	13:55	5.6	2.06	20.1	DH48	13	403														
DEC 03	14:10	5.6	0.391	14.9 M	DH48	33	355														
DEC 03	14:15	0.6	0.832	18.0 M	DH48	35	431														
DEC 03	14:20	0.6	0.453	21.0 M	DH48	40	363														
DEC 03	14:25	0.6	0.226	24.1 M	DH48	31	369														
DEC 03	14:30	0.6	1.90	20.1	DH48	30	401														

NOTE :

TIME SYMBOL:	E - ESTIMATED
VERTICAL SYMBOL(S):	M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

WATER SURVEY OF CANADA
JUL 31, 1989 PAGE 16
OTTAWA, ONT.

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1970

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)		TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
									.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 09	13:25	0.0	4.67	80.0	M	DH48	7	313														
JAN 09	13:30	0.0	4.67	70.0	M	DH48	9	474														
JAN 09	13:35	0.0	4.67	32.0	M	DH48	12	333														
JAN 09	13:40	0.0	4.67	22.0	M	DH48	11	317														
JAN 09	13:45	0.0	4.67	12.0	M	DH48	13	323														
JAN 09	13:50	0.0	4.67	20.1		DH48	10	347														
FEB 12	13:20	0.0	1.67	4.3	M	DH48	57	348														
FEB 12	13:25	0.0	0.314	7.3	M	DH48	22	383														
FEB 12	13:30	0.0	0.331	8.8	M	DH48	20	378														
FEB 12	13:35	0.0	0.154	10.4	M	DH48	25	381														
FEB 12	13:40	0.0	0.226	13.4	M	DH48	24	378														
FEB 12	13:45	0.0	1.67	20.1		DH48	27	369														
MAR 09	14:10	0.0	1.61	20.1		DH48	29	362														
MAR 09	17:00	0.0	1.61	20.1		DH59	28	362														
MAR 12	18:40	0.0	1.68	20.1		DH59	41	351														
MAR 18	08:30	0.0	1.89	20.1		DH59	28	330														
MAR 19	16:00	0.0	2.66	20.1		DH59	163	323														
MAR 20	08:00	0.0	3.77	20.1		DH59	143	311														
MAR 23	16:30	0.0	4.16	20.1		DH59	173	350														
MAR 27	10:40	0.6	2.83	15.2	M	DH59	250	316														
MAR 27	10:45	0.6	2.74	22.3	M	DH59	251	311														
MAR 27	10:50	0.6	0.648	24.4	M	DH59	260	319														
MAR 28	18:45	0.0	4.67	20.1		DH59	174	307														
MAR 31	19:00	0.0	2.97	20.1		DH59	224	315														
APR 03	10:30	0.0	1.49	15.2	M	DH59	376	340														
APR 03	10:35	0.0	1.99	20.1	M	DH59	371	330														
APR 03	10:40	0.0	1.44	22.9	M	DH59	390	338														
APR 06	12:30	2.8	4.98	20.1		DH59	180	298														
APR 07	11:20	3.9	1.04	14.3	M	DH48	271	295														
APR 07	11:25	3.9	1.59	17.7	M	DH48	281	288														
APR 07	11:30	3.9	1.74	20.1	M	DH48	276	288														
APR 07	11:35	3.9	1.96	23.8	M	DH48	296	288														
APR 07	11:45	3.9	0.778	27.1	M	DH48	276	291														
APR 08	08:00	3.9	8.21	20.1		DH59	490	275														
APR 09	08:00	5.6	14.6	20.1		DH59	1330	255	11	17	34	55	75	87	94	98	100			13	70	17
APR 09	17:15	5.6	13.8	20.1		DH59	850	240	16	21	33	56	76	90	96	99	100			10	69	21
APR 10	08:30	3.3	11.0	20.1		DH59	438	243														
APR 10	18:25	3.3	9.06	20.1		DH59	316	236														
APR 11	19:00		5.30	20.1		DH59	148	248														
APR 12	12:00	5.0	4.93	20.1		DH59	105	256														
APR 13	18:30	7.2	5.52	20.1		DH59	110	267														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1970

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 16	17:00	7.2	5.30	20.1	DH59	116	251														
APR 24	12:50	10.0	3.99	20.1	DH59	87	282														
APR 24	13:00	9.4	4.05	20.1	DH59	86	286														
APR 25	13:00E	8.3	4.67	20.1	DH59	141	303														
MAY 21	13:00	19.4	0.275	14.9 M	DH48	32	267														
MAY 21	13:05	19.4	0.376	17.7 M	DH48	31	276														
MAY 21	13:10	19.4	0.685	20.1 M	DH48	30	252														
MAY 21	13:15	19.4	0.464	23.5 M	DH48	28	262														
MAY 21	13:20	19.4	0.147	26.2 M	DH48	20	254														
MAY 25	12:50	14.4	1.89	20.1	DH59	32	269														
MAY 26	11:50	16.4	1.89	20.1	DH59	2270	277	52	63	86	98	99	100						0	37	63
JUN 10	11:40	25.4	1.19	20.1	DH48	32	254														
JUN 10	11:50	25.4	0.425	16.5 M	DH48	14	261														
JUN 10	12:00	25.4	0.507	19.8 M	DH48	23	272														
JUN 10	12:10	25.4	0.259	23.2 M	DH48	23	256														
JUN 11	12:35	26.4	1.13	20.1	DH59	27	268														
JUN 12	19:30	26.4	1.19	20.1	DH59	32	267														
JUN 13	12:00	26.4	1.19	20.1	DH59	63	246														
JUN 17	10:00	26.4	1.29	20.1	DH59	84	265														
JUN 20	12:40	26.1	1.41	20.1	DH59	83	275														
JUN 25	10:45	18.9	1.13	20.1	DH59	51	265														
JUN 25	14:35	23.3	1.08	20.1	DH59	21	265														
JUN 27	13:00	21.1	2.49	20.1	DH59	38	263														
JUL 01	16:30	23.3	2.25	20.1	DH59	25	285														
JUL 04	17:35	24.4	2.89	20.1	DH59	53	267														
JUL 08	16:40	23.9	5.30	20.1	DH59	30	277														
JUL 14	12:00	20.6	1.29	20.1	DH59	74	279														
JUL 15	10:35	22.2	1.51	20.1	DH59	109	284														
JUL 16	07:10	22.2	2.41	20.1	DH59	132	305														
JUL 20	14:00	18.3	2.81	20.1	DH59	272	272														
JUL 23	13:00	22.2	1.57	20.1	DH59	83	271														
JUL 29	13:25	27.2	1.08	20.1	DH59	38	266														
AUG 05	11:30	23.3	1.16	20.1	DH59	52	283														
AUG 11	17:00	25.6	0.934	20.1	DH59	78	253														
AUG 13	16:50	22.8	1.57	20.1	DH59	3290	260	38	50	73	92	97	99	100					1	49	50
AUG 21	17:30	22.8	1.23	20.1	DH59	35	269														
AUG 30	14:00	17.2	1.32	20.1	DH59	201	276														
SEP 01	13:45	18.3	1.89	20.1	DH59	118	260														
SEP 02	10:30	15.6	1.54	20.1	DH59	81	286														
SEP 04	08:00	17.2	1.57	20.1	DH59	176	284														
SEP 07	08:00	16.7	0.850	20.1	DH59	56															

NOTE :

TIME SYMBOL: E - ESTIMATED
VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1970

(CONTINUED)

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
SEP 11	08:00	15.0	0.850	20.1	DH59	53	286														
SEP 19	08:36	13.3	1.72	20.1	DH59	43	275														
SEP 23	13:45	18.9	1.19	20.1	DH59	7	290														
SEP 25	08:05	18.3	1.16	20.1	DH59	24	285														
SEP 25	09:50	19.2	1.16	20.1	DH59	13	288														
SEP 29	09:00	10.6	1.76	20.1	DH59	28	269														
OCT 01	10:00	11.1	1.32	20.1	DH59	12	270														
OCT 02	08:15	9.4	1.29	20.1	DH59	29	273														
OCT 06	10:00	10.6	1.26	20.1	DH59	18	272														
OCT 09	10:00	11.1	1.44	20.1	DH59	16	277														
OCT 12	15:00	11.1	1.38	20.1	DH59	16	299														
OCT 15	15:30	12.2	2.29	20.1	DH59	68	320														
OCT 17	11:30	6.1	2.49	20.1	DH59	12	315														
OCT 20	10:00	6.1	0.850	20.1	DH59	28	327														
OCT 23	12:30	11.7	2.25	20.1	DH59	42	301														
OCT 26	12:30	10.0	1.54	20.1	DH59	19	306														
OCT 29	11:45	8.9	1.44	20.1	DH59	15	306														
NOV 01	12:00	10.0	3.51	20.1	DH59	108	324														
NOV 04	10:30	7.8	1.99	20.1	DH59	31	321														
NOV 04	14:45	9.2	1.89	20.1	DH48	31	310														
NOV 08	12:50	5.6	1.44	20.1	DH59	28	311														
NOV 11	09:00	7.2	1.96	20.1	DH59	55	306														
NOV 13	13:40	8.6	2.65	20.1	DH59	78	329														
NOV 15	13:50	3.3	2.03	20.1	DH59	30	334														
NOV 18	09:30	2.8	1.82	20.1	DH59	34	314														
NOV 22	12:45	4.4	2.29	20.1	DH59	55	321														
NOV 28	15:30	0.0	1.72	20.1	DH59	40	326														
NOV 30	13:50	5.2	2.49	20.1	DH48	50	350														
DEC 09	08:30	28.0	2.81	20.1	DH59	86	347														
DEC 16	10:00	30.0	1.93	20.1	DH59	60	355														
DEC 21	10:35	0.0	2.33	20.1	DH59	59															

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1971

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 03	11:00	0.0	4.33	20.1	DH59	68	141														
JAN 06	13:50	0.0	5.47	20.1	DH48	110	334														
JAN 09	17:00	0.0	3.91	20.1	DH48	126	257														
JAN 15	09:00	0.0	2.86	20.1	DH48	96	158														
JAN 21	12:45	0.0	3.77	20.1	DH48	33	320														
FEB 08	14:45	0.0	4.96	20.1	DH48	99	236														
FEB 26	11:15	0.3	0.130	13.7 M	DH48	48	311														
FEB 26	11:20	0.3	0.419	15.2 M	DH48	39	320														
FEB 26	11:25	0.3	0.453	16.8 M	DH48	64	303														
FEB 26	11:30	0.3	0.597	18.3 M	DH48	32	349														
FEB 26	11:35	0.3	0.413	19.8 M	DH48	30	343														
FEB 26	11:40	0.3	2.01	20.1	DH48	32	345														
MAR 05	14:00	0.6	2.07	20.1	DH48	73	334														
MAR 08	13:00	0.6	1.71	20.1	DH48	2	94														
MAR 14	13:00	0.6	1.78	20.1	DH48	88	342														
MAR 16	09:15	1.1	7.19	20.1	DH48	367	258	14	19	33	49	62	73	83	94	97	99	100	27	54	19
MAR 17	15:10	0.0	1.98	15.2 M	DH48	182	280														
MAR 17	15:15	0.0	1.57	17.7 M	DH48	200	263														
MAR 17	15:20	0.0	1.90	20.1 M	DH48	193	278														
MAR 17	15:25	0.0	0.606	22.6 M	DH48	203	273														
MAR 17	15:30	0.0	6.06	20.1	DH59	244	270														
MAR 18	13:45	0.6	4.33	20.1	DH59	188	306														
MAR 18	15:45	0.6	4.28	20.1	DH59	192	304														
MAR 22	13:00	1.1	2.70	20.1	DH59	117	317														
MAR 24	10:40	0.6	2.54	20.1	DH59	126	273														
MAR 26	11:00	0.6	2.14	20.1	DH59	133	298														
MAR 29	13:00	0.6	3.00	20.1	DH59	250	309														
APR 01	09:00	1.1	4.39	20.1	DH59	219	292														
APR 02	09:30	0.6	18.2	20.1	DH59	1510	215	9	16	33	58	78	90	95	98	99	100		10	74	16
APR 02	12:30	0.6	25.6	20.1	DH59	2970	216	7	9	17	29	45	68	88	96	99	100		32	59	9
APR 02	13:00	0.6	1.63	12.2 M	D49	2810	216	5	9	21	35	62	82	93	98	100			18	73	9
APR 02	13:05	0.6	5.74	15.8 M	D49	3470	219	7	9	20	33	52	75	87	93	97	100		25	66	9
APR 02	13:10	0.6	3.74	19.8 M	D49	3170	229	7	11	22	35	54	78	93	99	100			22	67	11
APR 02	13:15	0.6	3.34	21.9 M	D49	3040	206	8	11	20	33	51	62	72	81	90	100		38	51	11
APR 02	13:20	0.6	2.68	25.9 M	D49	2230	240	7	15	26	42	63	82	95	99	100			18	67	15
APR 05	10:30	0.6	5.95	20.1	D49	203	273														
APR 05	12:45	0.6	8.27	20.1	D49	174	280														
APR 06	13:30	1.1	5.30	20.1	D49	138	285														
APR 09	12:30	1.7	7.87	20.1	D49	188	236														
APR 10	12:00	1.7	11.6	20.1	D49	437	254														
APR 12	12:30	4.4	8.83	20.1	D49	300	261														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1971

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
APR 14	13:00	6.1	9.88	20.1	D49	239	244														
APR 14	13:05	6.1	9.88	20.1	D49	247	256														
APR 15	11:35	5.6	0.489	2.1 M	DH48	150	249														
APR 15	11:40	5.6	1.80	5.5 M	DH48	159	250														
APR 15	11:45	5.6	6.31	18.0 M	DH48	156	247														
APR 15	11:50	5.6	1.83	8.5 M	DH48	157	250														
APR 15	11:55	5.6	1.79	11.6 M	DH48	161	247														
APR 15	11:56	5.6	0.849	14.9 M	DH48	160	253														
APR 15	11:57	5.6	6.31	36.0 M	DH48	167	247														
APR 15	12:00	5.6	6.76	11.0 X	DH48	158	241														
APR 19	12:00	6.1	3.71	11.0 X	DH48	80	264														
APR 22	08:30	7.2	3.06	20.1	DH48	54	245														
APR 23	12:55	11.1	2.54	20.1	DH59	55	255														
APR 26	10:00	10.0	2.34	20.1	DH59	20	285														
MAY 01	08:45	7.8	1.92	20.1	DH59	31	246														
MAY 05	08:30	8.3	2.07	20.1	DH59	15	275														
MAY 05	08:35	8.3	2.07	20.1	DH59	8	278														
MAY 10	11:30	15.0	1.75	20.1	DH59	13	248														
MAY 12	10:40	15.0	0.245	14.6 M	DH48	12	247														
MAY 12	10:45	15.0	1.66	20.1 M	DH59	45	248														
MAY 12	10:50	15.0	0.371	17.1 M	DH48	18	230														
MAY 12	11:00	15.0	1.61	64.0 M	DH48	7	242														
MAY 12	11:10	15.0	0.518	19.5 M	DH48	17	239														
MAY 12	11:15	15.0	0.334	22.3 M	DH48	18	242														
MAY 12	11:20	15.0	0.195	24.7 M	DH48	29	249														
MAY 17	08:15	12.8	1.44	20.1	DH59	63	213														
MAY 20	10:15	20.0	1.48	20.1	DH59	59	235														
MAY 25	09:00	12.2	1.71	20.1	DH59	97	230														
MAY 28	09:30	12.8	1.95	20.1	DH59	62	239														
JUN 03	09:30	15.0	1.48	20.1	DH59	40	245														
JUN 09	08:30	15.6	1.41	20.1	DH59	51	271														
JUN 13	09:30	21.1	1.14	20.1	DH59	36	283														
JUN 15	13:25	22.8	1.40	20.1	DH48	43	283														
JUN 15	13:30	22.8	0.623	4.6 M	DH48	37	272														
JUN 15	13:35	22.8	0.436	7.0 M	DH48	74	230														
JUN 15	13:45	22.8	0.340	9.4 M	DH48	51	266														
JUN 20	09:30	22.2	0.991	20.1	DH59	30	267														
JUN 25	08:30	21.1	1.08	20.1	DH59	56	255														
JUN 28	08:30	21.7	1.28	20.1	DH59	57	271														
JUL 02	08:30	21.1	1.08	20.1	DH59	64	284														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1971

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUL 05	12:45	24.4	0.311	15.8 M	DH48	36	246														
JUL 05	12:47	24.4	0.393	19.0 M	DH48	34	251														
JUL 05	12:50	24.4	0.208	21.9 M	DH48	33	270														
JUL 05	12:55	24.4	0.914	20.1	DH59	36	262														
JUL 06	08:30	23.9	2.74	20.1	DH59	291	263														
JUL 06	11:25	22.2	4.11	20.1	DH59	623	270														
JUL 06	11:26	22.2	4.11	66.0	DH59	649	276														
JUL 11	09:30	23.9	1.11	20.1	DH59	98	285														
JUL 16	08:00	18.9	0.906	20.1	DH59	88	269														
JUL 22	08:15	18.9	1.05	20.1	DH59	49	275														
JUL 27	08:00	18.3	2.70	20.1	DH59	275	273														
JUL 27	08:05	18.3	2.70	20.1	DH59	284	230														
AUG 02	09:00	17.8	0.963	20.1	DH59	60	282														
AUG 06	09:00	18.3	0.821	20.1	DH59	42	273														
AUG 11	09:15	18.3	1.19	20.1	DH59	59	280														
AUG 13	09:40	21.1	1.22	20.1	DH59	47	268														
AUG 16	08:15	17.8	1.11	20.1	DH59	73	288														
AUG 19	11:30	23.3	0.030	3.0 M	DH48	29	253														
AUG 19	11:35	23.3	0.037	5.8 M	DH48	20	262														
AUG 19	11:40	23.3	0.018	8.5 M	DH48	32	243														
AUG 21	09:00	23.3	0.850	20.1	DH48	55	235														
AUG 23	08:45	17.8	2.34	20.1	DH48	259	260														
AUG 23	08:50	17.8	2.34	66.0	DH48	256	254														
AUG 27	10:00	16.7	1.51	20.1	DH48	2420	257														
AUG 27	10:05	16.7	1.51	66.0	DH48	2400	254														
SEP 03	09:00	17.8	1.11	20.1	DH48	90	301														
SEP 06	10:45	21.1	1.54	20.1	DH59	122	270														
SEP 09	11:45	23.3	1.05	20.1	DH59	53	285														
SEP 15	10:30	23.3	1.08	20.1	DH59	69	270														
SEP 21	08:45	12.8	1.31	20.1	DH59	46	304														
SEP 24	15:00	15.0	1.02	20.1	DH59	20	278														
SEP 29	09:30	15.6	1.02	20.1	DH59	20	284														
OCT 03	09:45	16.7	0.963	20.1	DH59	23	262														
OCT 08	10:15	9.4	0.906	20.1	DH59	11	285														
OCT 10	10:00	9.4	1.19	20.1	DH59	28	275														
OCT 14	11:00	11.7	1.16	20.1	DH59	19	277														
OCT 19	09:00	10.0	1.08	20.1	DH59	24	282														
OCT 23	09:30	12.8	1.08	20.1	DH59	24	301														
OCT 25	11:05	12.2	1.28	20.1	DH59	18	294														
OCT 27	09:30	12.8	1.41	20.1	DH59	61	277														
NOV 01	11:00	9.4	1.19	20.1	DH59	18	290														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1971

(CONTINUED)

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
NOV 04	12:00	7.8	1.11	20.1	DH59	13	285														
NOV 05	11:00	7.8	1.08	20.1	DH59	25	306														
NOV 07	10:00	2.8	1.05	20.1	DH59	20	308														
NOV 10	11:00	0.0	1.22	20.1	DH59	9	291														
NOV 14	10:50	0.6	1.25	20.1	DH59	14	297														
NOV 16	09:00	1.7	1.34	20.1	DH59	21	305														
NOV 19	09:45	8.9	1.31	20.1	DH59	28	301														
NOV 24	08:30	0.0	1.34	20.1	DH59	15	332														
NOV 24	13:00	0.0	1.61	20.1	DH59	28	314														
NOV 29	12:15	2.2	1.65	20.1	DH59	21	321														
DEC 02	16:45	1.1	2.42	20.1	DH59	367	351														
DEC 07	08:30	1.1	1.92	20.1	DH59	41	314														
DEC 13	13:40	1.7	2.30	20.1	DH59	33	328														
DEC 16	13:30	1.7	4.84	20.1	DH59	396	339														
DEC 21	13:35	0.6	2.14	20.1	DH59	95	333														
DEC 22	12:30	0.0	1.65	20.1	DH59	122	327														

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1972

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 07	12:50	0.0	1.99	20.1	DH59	128	320														
JAN 07	12:50	0.0	1.99	20.1	DH59	128															
JAN 13	11:40	0.0	1.78	20.1	DH59	58															
JAN 18	14:10	0.0	7.11	20.1	DH59	39															
JAN 22	13:21	4.4	2.46	20.1	DH59	80															
JAN 26	13:30	0.0	5.66	20.1	DH48	48															
FEB 01	13:00	0.0	2.34	20.1	DH59	117															
FEB 15	12:15	1.1	1.82	20.1	DH59	104															
FEB 22	13:15	0.6	3.62	20.1	DIP	82															
FEB 26	12:45	0.1	1.68	20.1	DIP	81															
FEB 29	13:05	0.0	1.58	20.1	DH59	47															
MAR 04	10:20	0.0	5.24	20.1	DIP	105															
MAR 06	12:50	0.0	1.54	20.1	DH59	96															
MAR 08	08:30	0.0	1.71	20.1	DIP	53															
MAR 10	13:15	0.0	1.99	20.1	DIP	52															
MAR 11	11:00	0.0	1.71	20.1	DIP	34															
MAR 12	09:05	0.0	1.61	20.1	DH59	39	326														
MAR 14	13:35	0.0	1.54	20.1	DH59	28	341														
MAR 16	12:15	1.1	0.323	5.5 M	DH48	43	336														
MAR 16	12:20	1.1	0.239	7.3 M	DH48	27	370														
MAR 16	12:25	1.1	0.257	12.8 M	DH48	38	356														
MAR 16	12:30	1.1	0.379	21.9 M	DH48	58	327														
MAR 16	12:35	1.1	0.396	32.9 M	DH48	29	364														
MAR 16	12:40	1.1	1.59	20.1	DH48	58	342														
MAR 19	11:35	0.0	2.34	20.1	DH59	80	347														
MAR 21	11:10	1.1	0.376	1.5 M	DH59	50	323														
MAR 21	11:15	1.1	0.560	3.7 M	DH59	33	338														
MAR 21	11:20	1.1	0.467	6.1 M	DH59	42	343														
MAR 21	11:25	1.1	0.294	8.2 M	DH59	30	355														
MAR 21	11:30	1.1	0.226	10.4 M	DH59	51	325														
MAR 21	11:35	1.1	1.92	20.1	DH59	64	315														
MAR 23	14:30	0.0	4.45	20.1	DIP	128	324	10	16	38	61	71	79	89	92	96	99	100	21	63	16
MAR 26	14:30	0.6	2.38	20.1	DH59	111	343														
MAR 28	12:30	0.6	0.529	1.5 M	DH48	87	317														
MAR 28	12:35	0.6	0.662	4.6 M	DH48	49	350														
MAR 28	12:40	0.6	0.586	7.6 M	DH48	60	345														
MAR 28	12:45	0.6	0.320	10.7 M	DH48	57	350														
MAR 28	12:50	0.6	0.102	13.7 M	DH48	52	346														
MAR 28	12:55	0.6	2.20	20.1	DH59	53	335														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1972

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 29	11:00	0.6	2.66	20.1	DH59	163	255														
MAR 29	12:45	0.6	2.18	20.1	DH59	97	339														
MAR 29	11:00	0.6	2.66	66.0	DH59	163	255														
MAR 31	11:50	0.6	2.86	20.1	DH59	110	354														
APR 01	13:00	0.0	4.11	20.1	DH59	200	324														
APR 03	10:30	1.1	4.73	20.1	DH59	109	311														
APR 04	11:00	0.6	7.45	20.1	DH59	453	300	9	15	32	52	66	76	82	90	93	97	100	24	61	15
APR 05	11:45	0.0	6.51	20.1	DH59	389	285														
APR 07	15:40	0.0	3.17	20.1	DIP	212	330														
APR 10	09:15	0.0	4.39	20.1	DH59	273	327														
APR 10	11:50	0.6	4.33	20.1	DH59	451	317														
APR 11	10:00	0.6	8.86	20.1	DH59	2450	316	6	12	19	33	51	74	90	97	100			26	62	12
APR 11	12:40	0.6	10.9	20.1	DH59	1360	263														
APR 12	10:15	0.8	20.3	20.1	DH59	799	223														
APR 12	12:55	0.8	18.4	20.1	DH59	612	227														
APR 13	09:15	0.6	31.1	20.1	DH59	964	237	11	17	34	55	72	84	89	95	97	99	100	16	67	17
APR 13	13:30	1.7	2.83	10.1 M	DH59	1250	220	17	20	40	63	81	94	98	99	100			6	74	20
APR 13	13:35	1.7	10.9	16.2 M	DH59	1420	194	14	18	33	56	76	86	92	96	97	98	100	14	68	18
APR 13	13:40	1.7	10.7	22.3 M	DH59	1590	207	12	19	32	50	69	82	89	94	98	99	100	18	63	19
APR 13	13:45	1.7	6.93	28.3 M	DH59	1400	192	15	23	37	58	76	88	96	98	99	100		12	65	23
APR 13	13:50	1.7	1.02	34.4 M	DH59	1290	208	15	23	39	61	79	92	99	100				8	69	23
APR 13	13:55	1.7	32.3	20.1	DH59	1460	192	13	20	33	51	70	84	91	97	99	100		16	64	20
APR 13	14:00	1.1	32.3	20.1	DH59	1900	206	8	12	25	43	63	78	89	97	98	99	100	22	66	12
APR 14	09:15	1.1	35.7	20.1	DH59	1400	118	11	15	27	45	61	74	81	89	93	96	100	26	59	15
APR 14	14:05	1.1	3.28	10.4 M	DH59	650	181	13	19	38	62	79	90	96	99	100			10	71	19
APR 14	14:10	1.1	11.5	16.5 M	DH59	991	195	12	20	35	59	76	88	93	96	97	98	100	12	68	20
APR 14	14:15	1.1	10.3	22.6 M	DH59	1070	193	7	14	29	49	71	80	88	91	94	96	100	20	66	14
APR 14	14:20	1.1	6.71	28.7 M	DH59	973	195	11	16	31	54	76	86	93	97	98	100		14	70	16
APR 14	14:25	1.1	0.594	34.7 M	DH59	902	194	15	20	41	69	81	94	98	99	100			6	74	20
APR 14	14:30	1.1	32.3	20.1	DH59	973	198	8	13	26	47	73	86	92	99	100			14	73	13
APR 15	15:00	1.1	30.0	20.1	DH59	650	208														
APR 16	13:30	1.1	1.23	12.2 M	DH59	377	220	10	14	26	59	78	86	95	98	100			14	72	14
APR 16	13:35	1.1	4.27	16.5 M	DH59	418	212	17	22	37	56	74	80	92	96	98	100		20	58	22
APR 16	13:40	1.1	4.19	20.7 M	DH59	402	211	13	16	34	56	74	86	92	96	98	99	100	14	70	16
APR 16	13:45	1.1	4.73	25.0 M	DH59	794	226	17	28	44	62	79	93	98	99	100			7	65	28
APR 16	13:50	1.1	1.52	29.3 M	DH59	356	223	8	15	35	61	76	91	97	98	100			9	76	15
APR 16	17:25	2.2	14.5	20.1	DH59	395	232	15	21	34	60	67	72	78	87	97	100		28	51	21
APR 17	08:30	2.2	24.8	20.1	DH59	737	250														
APR 17	14:35	3.9	19.3	20.1	DH59	445	236														
APR 18	23:45	5.0	20.5	20.1	DH59	406	206														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1972

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 19	08:30	6.4	19.2	20.1	DH59	342	217	13	22	30	58	73	86	92	97	99	100		14	64	22
APR 19	14:00	6.1	1.35	11.6 M	DH59	335	208														
APR 19	14:05	6.1	5.63	16.5 M	DH59	393	207														
APR 19	14:10	6.1	5.15	20.7 M	DH59	356	211														
APR 19	14:15	6.1	5.91	26.2 M	DH59	376	200														
APR 19	14:20	6.1	0.582	31.1 M	DH59	329	210														
APR 19	18:25	6.4	18.2	20.1	DH59	379	205														
APR 20	06:20	6.4	12.2	20.1	DH59	338	230	20	22	34	48	60	67	76	85	94	99	100	33	45	22
APR 20	13:10	5.3	14.4	20.1	DH59	341	227	17	26	43	60	73	81	86	90	93	100		19	55	26
APR 20	06:20	6.4	12.2	66.0	DH59	328	230	20	22	34	48	60	67	76	85	94	99	100	33	45	22
APR 21	13:25	6.1	3.03	20.1	DH59	283	223	16	21	32	48	65	73	78	90	98	100		27	52	21
APR 22	19:00	5.0	6.60	20.1	DH59	136	236														
APR 23	18:15	5.6	6.29	20.1	DH59	116	263														
APR 24	13:10	6.1	5.47	20.1	DH59	103	261														
APR 25	19:00	7.2	4.45	20.1	DH59	95	292														
APR 27	19:30	7.2	3.57	20.1	DH59	93	292														
MAY 01	11:00	11.1	2.86	20.1	DH59	80	267														
MAY 03	06:50	12.5	3.88	20.1	DH59	116	309														
MAY 04	12:30	10.6	3.03	20.1	DH59	64	290														
MAY 06	18:45	10.8	2.18	20.1	DH59	93	263														
MAY 09	18:10	14.7	2.10	20.1	DH59	28	283														
MAY 12	15:00	17.2	1.86	20.1	DH59	31	258														
MAY 15	19:00	17.2	2.58	20.1	DH59	60	272														
MAY 15	23:20	14.7	2.22	20.1	DH59	93	248														
MAY 15	19:00	17.2	2.58	66.0	DH59	60	272														
MAY 17	18:15	17.5	3.71	20.1	DH59	66	300														
MAY 19	19:15	21.7	2.34	20.1	DH59	16	282														
MAY 21	14:40	23.9	1.98	20.1	DH59	18	271														
MAY 23	17:50	23.9	1.74	20.1	DH59	18	261														
MAY 26	10:00	18.3	1.70	20.1	DH59	23	286														
MAY 29	08:30	16.1	1.67	20.1	DH59	19	259														
MAY 31	08:20	15.6	1.51	20.1	DH59	26	275														
JUN 03	08:45	15.6	2.46	20.1	DH59	51	286														
JUN 05	11:15	19.4	1.98	20.1	DH59	47	285														
JUN 07	09:00	17.8	1.39	20.1	DH59	34	278														
JUN 09	19:30	20.0	1.24	20.1	DH59	21	290														
JUN 12	11:00	15.3	1.06	20.1	DH59	34	271														
JUN 14	12:10	19.2	1.24	20.1	DH59	39	257														
JUN 14	13:00	18.9	1.24	20.1	DH59	36	287														
JUN 14	12:10	19.2	1.24	66.0	DH59	39	257														
JUN 16	10:30	22.8	1.06	20.1	DH59	42	252														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1972

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JUN 19	11:50	22.8	0.934	20.1	DH59	35	245														
JUN 20	11:40	23.9	0.934	20.1	DH59	37	275														
JUN 22	10:15	15.6	4.56	20.1	DH59	626	286	28	38	58	76	93	96	99	100				4	58	38
JUN 25	08:10	13.9	5.47	20.1	DH59	205	290	25	34	52	81	90	95	98	99	100			5	61	34
JUN 28	10:30	18.3	2.67	20.1	DH59	83	298														
JUN 30	10:20	18.9	2.22	20.1	DH59	110	294														
JUL 04	11:30	18.3	3.11	20.1	DH59	95	296														
JUL 05	11:15	17.8	2.30	20.1	DH59	33	273														
JUL 20	11:45	26.1	1.13	20.1	DH59	26	259														
JUL 20	13:15	26.1	1.20	20.1	DH59	16	260														
AUG 01	13:15	24.4	0.793	20.1	DH59	18	257														
AUG 02	08:55	21.7	0.906	20.1	DH59	48	253														
AUG 03	18:30	22.8	1.09	20.1	DH59	27	263														
AUG 10	11:10	17.2	1.28	20.1	DH59	26	268														
AUG 16	11:15	17.8	1.09	20.1	DH59	15	265														
AUG 22	10:30	22.8	0.850	20.1	DH59	14	250														
AUG 28	19:30	24.4	1.06	20.1	DH59	28	267														
SEP 08	09:25	19.2	1.24	20.1	DH59	126	236														
SEP 11	08:05	16.1	0.906	20.1	DH59	16	238														
SEP 20	09:35	16.1	1.35	20.1	DH59	15	265														
SEP 25	14:35	16.7	0.934	20.1	DH59	6	265														
SEP 26	18:10	19.2	5.75	20.1	DH59	13	262														
SEP 30	15:30	13.9	1.35	20.1	DH59	12	267														
OCT 03	11:50	13.9	1.24	20.1	DH59	9	279														
OCT 07	15:20	13.3	2.67	20.1	DH59	67	284														
OCT 12	14:40	11.7	1.09	20.1	DH59	12	299														
OCT 24	09:00	6.7	6.12	20.1	DH59	210	298														
OCT 26	11:25	6.1	2.76	20.1	DH59	24	310														
OCT 28	14:00	6.7	1.86	20.1	DH59	9	310														
NOV 01	11:20	4.2	1.98	20.1	DH59	7	323														
NOV 01	12:15	5.0	1.98	20.1	DH59	7	326														
NOV 06	11:10	5.6	2.12	20.1	DH59	32	309														
NOV 07	12:00	5.6	1.94	20.1	DH59	15	337														
NOV 09	10:30	5.0	4.98	20.1	DH59	121	339														
NOV 14	08:25	2.5	2.02	20.1	DH59	31	311														
NOV 18	14:40	2.8	2.02	20.1	DH59	54	325														
NOV 21	12:00	0.5	2.18	20.1	DH59	27	358														
NOV 25	09:15	2.2	1.82	20.1	DH59	23	321														
NOV 28	10:15	1.7	2.62	20.1	DH59	71	297														
DEC 01	11:30	1.1	1.82	20.1	DH59	13	341														
DEC 04	12:10	0.3	1.74	20.1	DH59	54	307														

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1972

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
DEC 06	10:45	0.3	3.91	20.1	DH59	90	304														
DEC 08	13:45	0.0	5.75	20.1	DH59	22	332														
DEC 10	16:40	0.0	2.22	20.1	DH59	134	351														
DEC 13	12:15	0.0	5.47	20.1	DH59	85	357														
DEC 15	12:15	0.0	3.77	20.1	DIP	14	343														
DEC 18	12:00	0.0	4.79	20.1	DIP	27	341														
DEC 21	13:30	0.0	2.42	20.1	DIP	7	372														
DEC 26	14:30	0.0	2.54	20.1	DH59	43	371														
DEC 29	13:40	0.0	2.94	20.1	DIP	34	354														

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1973

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 02	11:45	0.0	4.39	20.1	DIP	139	325														
JAN 03	14:15	0.0	3.82	66.0	DH59	29	313														
JAN 04	11:35	1.1	3.48	20.1	DH59	31	372														
JAN 05	11:30	0.0	4.33	20.1	DH59	138	270														
JAN 08	15:00	0.0	5.47	20.1	DH59	199	291														
JAN 10	10:00	0.0	4.56	20.1	DH59	308	300														
JAN 18	13:10	0.0	10.1	20.1	DH59	108	301														
JAN 19	10:00	0.0	10.5	20.1	DH59	247	258														
JAN 19	13:10	0.0	12.8	20.1	DH59	250	245														
JAN 19	16:15	0.0	7.84	20.1	DH59	375	255														
JAN 22	08:35	0.0	8.38	20.1	DH59	58	292														
JAN 22	15:00	0.0	14.8	20.1	DH59	103	303														
JAN 23	09:30	0.0	15.2	20.1	DH59	124	298														
JAN 23	12:05	0.0	14.9	20.1	DH59	124	274														
JAN 23	16:15	0.0	12.9	20.1	DH59	135	265														
JAN 24	08:45	0.0	10.7	20.1	DH59	93	282														
JAN 24	15:30	0.0	10.7	20.1	DH59	59	287														
JAN 26	15:00	0.0	7.39	20.1	DH59	76	310														
JAN 28	14:30	0.0	6.17	20.1	DH59	61	300														
JAN 30	15:00	0.0	5.75	20.1	DH59	140	279														
FEB 01	14:15	0.0	5.69	20.1	DH59	72	305														
FEB 02	08:40	0.0	6.88	20.1	DH59	163	334														
FEB 02	11:45	0.0	11.8	20.1	DH59	513	257	43	53	69	82	89	92	94	97	99	100		8	39	53
FEB 16	11:15	0.0	5.21	20.1	DH59	266	322														
FEB 21	11:25	0.0	5.04	20.1	DH59	23	334														
FEB 22	13:30	0.0	5.15	20.1	DH59	16	333														
FEB 23	12:00	0.0	4.98	20.1	DH59	24	338														
FEB 24	11:30	0.0	5.04	20.1	DH59	58	300														
FEB 28	15:20	0.0	4.39	20.1	DH59	70	285														
MAR 01	13:35	0.0	4.79	20.1	DH59	51	306														
MAR 02	09:00	0.0	4.87	20.1	DH59	103	268														
MAR 03	09:10	0.0	6.54	20.1	DH59	64	321														
MAR 04	10:30	0.0	17.9	20.1	DH59	228	263														
MAR 04	14:00	0.0	20.1	20.1	DH59	366	251														
MAR 06	11:30	0.0	29.4	22.3 X	DH59	383	241														
MAR 07	09:30	0.0	27.0	20.1	DH59	358	225														
MAR 07	09:35	0.0	27.0	20.1	DH59	442	228														
MAR 07	13:15	0.0	23.2	20.1	DH59	534	234														
MAR 07	15:45	0.0	23.2	20.1	DH59	477	233														

NOTE :

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1973

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 08	09:50	0.0	23.2	20.1	DH59	532	222														
MAR 08	13:10	0.0	18.1	20.1	DH59	2830	231		3	5	8	10	12	14	24	58	93	100	88	9	3
MAR 08	13:40	0.0	16.9	20.1	DH59	5780	230														
MAR 09	13:15	0.0	10.8	20.1	DH59	521	240														
MAR 10	08:00	0.0	7.79	20.1	DH59	279	248														
MAR 12	08:30	0.0	23.2	20.1	DH59	1830	230	15	19	30	49	58	79	89	96	98	99	100	21	60	19
MAR 12	10:10	2.0	2.94	11.6 M	DH59	1390	231	16	21	36	58	85	92	97	99	100			8	71	21
MAR 12	10:15	2.0	6.45	16.5 M	DH59	1450	229	12	21	34	56	74	91	97	99	100			9	70	21
MAR 12	10:20	2.0	6.14	20.1 M	DH59	1470	221	13	19	34	55	70	86	95	99	100			14	67	19
MAR 12	10:25	2.0	7.24	26.2 M	DH59	1480	243	16	21	34	54	69	89	96	99	100			11	68	21
MAR 12	10:30	2.0	0.807	31.1 M	DH59	1390	224	15	20	35	55	76	91	97	99	100			9	71	20
MAR 12	15:50	0.0	20.5	20.1	DH59	1350	227	15	20	34	53	68	83	93	99	100			17	63	20
MAR 13	09:45	0.0	12.0	20.1	DH59	562	244														
MAR 14	10:05	0.0	7.84	20.1	DH59	470	264														
MAR 14	15:50	0.0	12.5	20.1	DH59	796	278														
MAR 15	09:45	0.0	11.8	20.1	DH59	435	279														
MAR 16	11:55	2.8	8.38	20.1	DH59	224	267														
MAR 16	13:05	2.8	8.24	20.1	DH59	214	261														
MAR 17	10:30	0.0	7.79	20.1	DH59	509	271	24	31	44	59	81	93	96	99	100			7	62	31
MAR 19	12:50	0.0	5.52	20.1	DH59	309	281														
MAR 20	14:05	0.0	4.28	20.1	DH59	117	282														
MAR 21	13:15	0.0	3.96	20.1	DH59	99	293														
MAR 23	13:30	0.0	3.48	20.1	DH59	90	294														
MAR 25	10:15	0.0	6.88	20.1	DH59	237	273														
MAR 26	11:00	4.4	6.77	20.1	DH59	332	273														
MAR 27	10:30	3.9	7.28	20.1	DH59	118	270														
MAR 29	13:10	4.4	6.40	20.1	DH59	151	263														
MAR 30	15:50	6.9	8.10	20.1	DH59	111	270														
APR 01	11:10	7.2	10.3	20.1	DH59	659	261	15	21	33	48	66	81	90	95	97	100		19	60	21
APR 02	10:55	6.7	10.4	20.1	DH59	345	266														
APR 03	13:10	4.4	13.6	20.1	DH59	413	295	15	21	43	64	81	93	99	100				7	72	21
APR 04	13:20	5.0	10.5	20.1	DH59	306	274														
APR 05	14:20	5.0	6.82	20.1	DH59	155	280														
APR 07	16:00	5.6	4.28	20.1	DH59	92	286														
APR 10	10:30	6.1	3.11	20.1	DH59	58	265														
APR 12	13:45	5.0	2.80	20.1	DH59	44	278														
APR 13	13:30	7.5	2.71	20.1	DH59	71	244														
APR 14	15:45	9.2	2.50	20.1	DH59	59	266														
APR 17	11:50	9.4	2.50	20.1	DH59	26	316														
APR 19	13:20	13.9	2.10	20.1	DH59	51	289														
APR 23	10:45	13.3	3.31	20.1	DH59	100	238														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1973

(CONTINUED)

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
APR 25	11:10	12.2	2.46	20.1	DH59	25	285														
APR 26	10:50	8.9	2.38	20.1	DH59	34	278														
APR 27	16:00	6.7	2.22	20.1	DH59	33	262														
APR 29	13:20	9.2	3.57	20.1	DH59	43	273														
MAY 02	09:55	9.4	3.88	20.1	DH59	77	251														
MAY 04	12:45	9.4	3.96	20.1	DH59	65	268														
MAY 08	13:30	13.3	2.42	20.1	DH59	16	281														
MAY 10	13:35	16.1	3.96	20.1	DH59	57	272														
MAY 11	11:50	11.1	4.62	20.1	DH59	93	265														
MAY 12	13:00	10.6	3.68	20.1	DH59	59	255														
MAY 16	14:05	11.1	2.46	20.1	DH59	16	279														
MAY 17	12:20	11.1	2.38	20.1	DH59	37	226														
MAY 20	13:20	14.4	2.30	20.1	DH59	15	258														
MAY 22	19:10	19.4	2.38	20.1	DH59	181	250														
MAY 23	10:30	17.5	2.23	20.1	DH59	17	257														
MAY 24	12:20	15.6	2.18	20.1	DH59	18	261														
MAY 27	13:20	13.9	4.13	20.1	DH59	104	244														
MAY 29	16:30	13.9	8.95	20.1	DH59	324	292														
MAY 30	17:40	14.4	4.73	20.1	DH59	88	277														
JUN 01	18:20	20.0	3.17	20.1	DH59	59	279														
JUN 04	09:50	18.3	2.18	20.1	DH59	50	251														
JUN 04	19:00	20.0	2.14	20.1	DH59	36	291														
JUN 07	14:10	23.3	2.06	20.1	DH59	48	258														
JUN 12	11:45	23.3	1.47	20.1	DH59	17	277														
JUN 14	12:40	23.6	1.43	20.1	DH59	20	284														
JUN 18	18:45	20.6	1.47	20.1	DH59	39	289														
JUN 20	18:20	24.2	1.55	20.1	DH59	37	282														
JUN 24	14:10	21.7	3.77	20.1	DH59	242	305														
JUN 26	14:00	23.3	2.22	20.1	DH59	70	291														
JUN 29	12:50	20.0	2.71	20.1	DH59	156	292														
JUL 03	10:40	25.5	1.47	20.1	DH59	122	289														
JUL 03	18:20	24.4	1.36	20.1	DH59	49	282														
JUL 13	10:20	22.2	1.09	20.1	DH59	41	262														
JUL 19	13:05	21.1	0.821	20.1	DH59	24	254														
JUL 24	13:10	25.6	0.906	20.1	DH59	21	260														
JUL 25	12:30	22.2	3.43	20.1	DH59	37	258														
AUG 02	13:45	21.7	3.43	20.1	DH59	229	291														
AUG 08	09:30	23.1	1.02	20.1	DH59	52	279														
AUG 14	11:30	23.9	0.391	20.1	DH59	40	272														
AUG 20	17:30	22.2	1.31	20.1	DH59	121	274														
AUG 29	19:10	27.2	0.660	20.1	DH59	34	289														

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1973

(CONTINUED)

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
SEP 07	12:50	19.4	0.583	20.1	DH59	28	283														
SEP 10	12:55	18.9	0.821	20.1	DH59	16	259														
SEP 11	11:55	19.7	0.765	20.1	DH59	28	223														
SEP 18	13:30	13.9	1.54	20.1	DH59	28	275														
SEP 22	13:45	12.8	1.17	20.1	DH59	41	250														
OCT 02	14:20	15.0	1.20	20.1	DH59	10	271														
OCT 03	11:10	16.1	1.63	20.1	DH59	33	242														
OCT 03	12:50	16.7	1.67	20.1	DH59	18	280														
OCT 06	17:30	15.0	1.24	20.1	DH59	11	273														
OCT 13	13:30	16.1	1.17	20.1	DH59	11	284														
OCT 16	13:15	10.6	1.31	20.1	DH59	6	279														
OCT 17	12:45	8.9	1.17	20.1	DH59	7	281														
OCT 21	16:00	9.4	1.47	20.1	DH59	7	298														
OCT 25	18:40	10.6	1.24	20.1	DH59	11	292														
OCT 29	15:50	7.2	1.63	20.1	DH59	14	287														
NOV 02	15:50	7.2	3.40	20.1	DH59	41	335														
NOV 06	11:15	3.1	1.98	20.1	DH59	17	335														
NOV 10	10:45	2.8	1.63	20.1	DH59	15	283														
NOV 13	13:25	6.1	1.67	20.1	DH59	16	326														
NOV 15	15:45	3.9	2.50	20.1	DH59	220	327														
NOV 19	15:45	3.9	2.62	20.1	DH59	16	351														
NOV 22	14:20	5.0	2.67	20.1	DH59	24	331														
NOV 25	13:50	5.0	3.31	20.1	DH59	93	339														
NOV 28	14:25	5.6	2.76	20.1	DH59	143	345														
NOV 29	14:00	2.2	4.93	20.1	DH59	49	269														
DEC 04	13:05	8.9	2.18	20.1	DH59	28	292														
DEC 08	14:20	4.4	2.10	20.1	DH59	24	256														
DEC 10	14:20	1.1	2.02	20.1	DH59	41	280														
DEC 11	14:20	1.7	2.30	20.1	DH59	32	315														
DEC 15	10:00	0.0	2.10	20.1	DH59	31	296														
DEC 19	13:20	0.0	2.34	20.1	DH59	56	294														
DEC 29	10:45	0.0	6.17	20.1	DH59	34	334														

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1974

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 03	14:15	0.0	3.82	20.1	DH59	29	313														
JAN 03	14:20	0.0	3.82	20.1	DH59	29	313														
JAN 16	14:00	0.0	3.68	20.1	DH59	24	319														
JAN 24	14:30	0.6	6.60	20.1	DH59	37	379														
JAN 26	14:30	0.0	4.98	20.1	DH59	49	353														
JAN 27	11:40	0.0	10.8	20.1	DH59	302	341														
JAN 27	16:40	0.0	20.4	20.1	DH59	1260	325														
JAN 28	12:40	0.0	17.8	20.1	DH59	321	246														
JAN 29	13:30	0.0	8.24	20.1	DH59	197	297														
FEB 01	15:00	0.0	7.02	20.1	DH59	206	307														
FEB 04	12:35	0.0	4.81	20.1	DH59	30	369														
FEB 07	12:50	0.0	9.80	20.1	DH59	72	183														
FEB 10	13:25	0.0	5.41	20.1	DH59	22	318														
FEB 14	14:25	0.0	3.96	20.1	DH59	28	343														
FEB 21	13:40	0.0	3.48	20.1	DH59	52	308														
FEB 26	13:40	0.0	4.79	20.1	DH59	81	288														
MAR 04	16:00	0.6	39.4	20.1	DH59	506	165														
MAR 04	16:15	0.6	41.3	20.1	DH59	567	135														
MAR 05	13:00	0.0	61.7	20.1	DH59	1590	159														
MAR 05	13:15	0.0	63.1	20.1	DH59	1920	125	16	20	31	44	57	67	79	93	99	100		33	47	20
MAR 05	15:30	1.1	8.77	11.6 M	DH59	1800	135	13	24	41	56	78	88	93	95	99	100		12	64	24
MAR 05	15:35	1.1	12.1	18.6 M	DH59	2260	121	9	15	26	45	60	72	80	86	96	100		28	57	15
MAR 05	15:40	1.1	9.74	22.3 M	DH59	2060	109	6	12	25	42	61	80	91	98	100			20	68	12
MAR 05	15:45	1.1	11.3	25.6 M	DH59	1760	82	10	16	29	47	66	81	90	95	99	100		19	65	16
MAR 05	15:50	1.1	6.00	32.1 M	DH59	1640	93	11	16	28	48	82	93	98	100				7	77	16
MAR 05	15:55	1.1	48.0	20.1	DH59	2020	166	14	21	36	54	70	83	91	96	99	100		17	62	21
MAR 06	10:15	1.1	65.1	20.1	DH59	551	152	17	20	41	65	80	92	98	100				8	72	20
MAR 06	11:30	1.1	68.8	20.1	DH59	1240	168	7	8	21	36	47	54	59	76	96	100		46	46	8
MAR 06	12:50	1.1	59.7	20.1	DH59	2290	136	4	5	10	21	30	39	51	76	96	100		61	34	5
MAR 07	14:10	1.1	23.8	20.1	DH59	2850	170	5	7	14	25	33	44	55	71	87	100		56	37	7
MAR 07	14:20	1.1	24.0	20.1	DH59	1760	167	8	9	20	37	52	69	82	99	100			31	60	9
MAR 08	12:20	0.6	16.1	20.1	DH59	615	159	5	7	18	38	63	87	98	100				13	80	7
MAR 08	12:30	0.6	15.9	20.1	DH59	518	120	11	14	29	57	80	94	99	100				6	80	14
MAR 09	10:35	0.0	8.10	20.1	DH59	477	253														
MAR 12	11:05	0.6	4.22	20.1	DH59	138	267														
MAR 14	13:00	0.6	3.17	20.1	DH59	1230	306														
MAR 18	16:20	0.6	2.22	20.1	DH59	271	304														
MAR 19	11:40	1.7	3.11	20.1	DH59	82	287														
MAR 27	12:45	1.7	1.98	20.1	DH59	225	285														
MAR 27	16:10	1.7	1.94	20.1	DH59	114	275														
APR 01	15:45	1.7	2.58	20.1	DH59	96	331														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1974

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
APR 02	12:35	2.2	6.88	20.1	DH59	996	261	20	22	38	59	78	89	94	97	99	100		11	67	22
APR 02	14:15	2.2	7.19	20.1	DH59	1180	269	35	37	51	74	89	96	98	99	100			4	59	37
APR 03	13:50	3.9	8.86	20.1	DH59	625	238														
APR 04	19:00	6.1	20.5	20.1	DH59	1580	226	17	23	34	50	64	77	87	98	100			23	54	23
APR 04	19:20	6.1	20.4	20.1	DH59	1700	228	13	21	34	48	60	75	84	92	98	100		25	54	21
APR 05	13:40	5.0	15.6	20.1	DH59	695	214	13	21	33	53	70	83	92	98	99	100		17	62	21
APR 08	11:15	2.2	5.49	20.1	DH59	97	283														
APR 11	13:50	5.6	3.48	20.1	DH59	72	289														
APR 16	12:50	7.2	4.73	20.1	DH59	100	280														
APR 17	14:00	10.6	3.94	20.1	DH59	85	281														
APR 20	16:50	12.2	3.20	20.1	DH59	56	282														
APR 23	16:15	10.0	4.56	20.1	DH59	170	274														
APR 25	13:15	10.6	3.88	20.1	DH59	60	275														
MAY 01	14:40	15.6	2.74	20.1	DH59	276	301														
MAY 06	12:00	5.6	2.54	20.1	DH59	16	286														
MAY 06	12:50	5.6	2.54	20.1	DH59	15	279														
MAY 06	12:00	5.6	2.54	66.0	DH59	16	286														
MAY 09	12:50	7.8	3.71	20.1	DH59	51	278														
MAY 13	13:00	10.6	7.02	20.1	DH59	201	303														
MAY 15	13:10	15.8	4.05	20.1	DH59	57	372														
MAY 16	12:30	12.8	4.45	20.1	DH59	41	297														
MAY 17	07:35		19.4	20.1	DH59	3360	273	22	30	43	56	67	77	86	95	99	100		23	47	30
MAY 21	13:20	16.1	3.06	20.1	DH59	26	303														
MAY 22	18:25	20.0	2.89	20.1	DH59	25	303														
MAY 27	12:30	14.4	2.35	20.1	DH59	23	296														
MAY 31	12:35	16.1	2.40	20.1	DH59	14	295														
JUN 04	12:50	20.6	1.70	20.1	DH59	21	289														
JUN 07	10:45	22.2	1.66	20.1	DH59	19	303														
JUN 11	13:00	19.4	1.39	20.1	DH59	15	311														
JUN 17	18:35	18.3	2.89	20.1	DH59	107	292														
JUN 19	11:00	15.8	2.31	20.1	DH59	120	300														
JUN 24	13:45	20.0	1.46	20.1	DH59	48	302														
JUN 25	16:10	20.0	1.62	20.1	DH59	140	254														
JUL 09	19:10	28.9	1.17	20.1	DH59	36	282														
JUL 29	09:45	21.1	1.00	20.1	DH59	68	251														
AUG 06	12:45	20.0	1.21	20.1	DH59	26	288														
AUG 13	18:25	25.6	1.21	20.1	DH59	15	261														
AUG 15	13:00	22.8	1.06	20.1	DH59	12	271														
AUG 19	12:45	23.3	0.929	20.1	DH59	24	260														
AUG 29	13:50	18.9	1.34	20.1	DH59	48	280														
SEP 07	13:25	17.2	1.06	20.1	DH59	30	253														

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1974

(CONTINUED)

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
SEP 09	13:00	16.7	1.13	20.1	DH59	13	253														
SEP 13	13:45	20.0	1.06	20.1	DH59	19	254														
SEP 17	08:00	19.4	1.00	20.1	DH59	19	267														
SEP 24	13:00	13.9	1.06	20.1	DH59	9	258														
SEP 24	13:30	11.7	1.10	20.1	DH48	26	248														
OCT 01	14:00	12.2	1.66	20.1	DH59	12	261														
OCT 07	10:45	12.2	1.13	20.1	DH59	13	244														
OCT 09	09:50	8.3	1.21	20.1	DH59	26	215														
OCT 09	14:00	9.4	1.17	20.1	DH48	7	260														
OCT 18	13:10	7.2	1.28	20.1	DH59	7	270														
OCT 23	11:50	7.8	1.32	20.1	DH59	16	265														
OCT 24	12:05	7.2	1.28	20.1	DH59	21	243														
NOV 05	14:30	6.7	1.66	20.1	DH59	15	281														
NOV 13	12:10	6.1	2.69	20.1	DH59	72	268														
NOV 14	13:15	6.1	2.12	20.1	DH59	21	285														
NOV 18	12:20	5.6	1.62	20.1	DH59	15	289														
NOV 19	13:10	6.1	2.49	20.1	DH59	576	262	40	51	74	91	98	99	100					1	48	51
NOV 20	16:00	5.0	7.28	20.1	DH59	746	303	18	25	41	68	87	93	97	99	100			7	68	25
NOV 25	13:30	3.3	2.40	20.1	DH59	43	318														
NOV 27	15:00	0.0	2.17	20.1	DH59	40	305														
DEC 04	15:00	0.0	1.54	20.1	DH59	69	297														
DEC 06	12:20	0.0	1.94	20.1	DH59	66	271														
DEC 10	13:00	0.0	1.82	20.1	DH59	25	310														
DEC 12	15:00	0.6	1.82	20.1	DH59	67	302														
DEC 16	14:15	0.6	1.86	20.1	DH59	104	301														
DEC 19	15:05	0.6	1.90	20.1	DH59	18	307														
DEC 20	12:40	1.1	1.35	20.1	DH59	24	305														
DEC 30	13:40	0.0	1.58	20.1	DH59	35	288														

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1975

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 02	15:00	0.0	0.963	20.1	DH59	20	360														
JAN 07	11:15	0.6	2.08	20.1	DH48	156	246														
JAN 08	13:00	0.6	1.66	20.1	DH59	35	334														
JAN 11	09:15	1.1	3.26	20.1	DH59	217	260														
JAN 16	13:30	0.0	1.54	20.1	DH59	56	322														
JAN 21	12:30	0.0	1.78	20.1	DH48	108	267														
JAN 25	15:40	0.6	1.82	20.1	DH59	69	296														
JAN 28	14:50	0.0	1.82	20.1	DH59	100	263														
FEB 03	13:40	0.0	1.46	20.1	DH59	71	266														
FEB 04	15:30	0.0	1.39	20.1	DH59	102	277														
FEB 12	10:50	0.0	1.99	20.1	DH59	59	296														
FEB 15	14:05	0.0	1.94	20.1	DH59	84	259														
FEB 17	13:20	0.0	2.17	20.1	DH59	122	235														
FEB 20	15:40	0.0	2.35	20.1	DH59	144	319														
FEB 24	09:00	0.0	11.8	20.1	DH59	843	219														
FEB 24	09:20	0.0	12.1	20.1	DH59	1080	216														
FEB 24	12:00	2.8	0.657	28.7 M	DH59	1050	217														
FEB 24	12:05	2.8	3.37	24.7 M	DH59	680	227														
FEB 24	12:10	2.8	3.23	20.1 M	DH59	1010	228														
FEB 24	12:15	2.8	3.17	17.4 M	DH59	809	226														
FEB 24	12:30	2.8	0.676	13.1 M	DH59	696	223														
FEB 24	14:30	0.0	20.1	20.1	DH59	2010	175	16	25	40	58	71	80	87	94	98	100		20	55	25
FEB 24	14:40	0.0	20.4	20.1	DH59	2170	180	19	24	40	56	66	76	84	91	98	100		24	52	24
FEB 25	09:45	0.0	30.9	20.1	DH59	1000	156	13	19	29	42	53	62	73	87	96	100		38	43	19
FEB 25	16:00	0.6	5.72	27.4 M	DH59	909	175	15	20	34	47	53	57	63	68	91	100		43	37	20
FEB 25	16:05	0.6	7.41	22.9 M	DH59	1030	181	10	21	36	55	77	83	91	97	99	100		17	62	21
FEB 25	16:10	0.6	5.74	20.1 M	DH59	1090	180	14	24	38	54	69	80	89	95	99	100		20	56	24
FEB 25	16:15	0.6	7.83	13.7 M	DH59	969	165	13	22	38	58	72	81	92	98	100			19	59	22
FEB 25	16:20	0.6	3.68	9.1 M	DH59	1500	169	10	17	26	39	49	59	65	68	80	100		41	42	17
FEB 26	16:35	0.0	13.5	20.1	DH59	573	190														
FEB 28	13:30	0.0	4.93	20.1	DH59	174	248														
MAR 06	11:40	0.0	2.74	20.1	DH59	259	268														
MAR 06	12:35	0.0	2.69	20.1	DH59	64	309														
MAR 13	15:46	0.0	3.71	20.1	DH59	224	335														
MAR 17	15:10	0.0	4.87	20.1	DH59	761	287														
MAR 18	14:25	1.5	1.06	4.3 M	DH59	339	227														
MAR 18	14:30	1.5	1.54	6.7 M	DH59	305	223														
MAR 18	14:35	1.5	1.72	9.1 M	DH59	317	28														
MAR 18	14:40	1.5	1.18	11.0 M	DH59	316	221														
MAR 18	14:45	1.5	0.541	12.8 M	DH59	297	227														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1975

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 20	14:50	0.0	20.2	20.1	DH59	871	209														
MAR 20	14:55	0.0	20.1	20.1	DH59	1060	206														
MAR 20	16:25	2.0	2.13	12.5 M	DH59	816	208														
MAR 20	16:30	2.0	4.67	16.5 M	DH59	882															
MAR 20	16:35	2.0	4.50	20.1 M	DH59	925	210														
MAR 20	16:40	2.0	5.49	23.8 M	DH59	985	208														
MAR 20	16:45	2.0	3.51	27.4 M	DH59	863	200														
MAR 24	19:00	0.0	7.70	20.1	DH59	647	244														
MAR 26	12:50	0.5	0.925	2.7 M	DH59	142	264														
MAR 26	12:55	0.5	1.45	5.2 M	DH59	146	266														
MAR 26	13:00	0.5	1.62	7.6 M	DH59	150	268														
MAR 26	13:05	0.5	1.10	9.4 M	DH59	159	254														
MAR 26	13:10	0.5	0.583	11.3 M	DH59	153	251														
APR 01	17:00	0.9	2.94	20.1	DH59	41	306														
APR 08	16:00	0.9	3.54	20.1	DH59	142	307														
APR 09	12:00	1.0	2.03	20.1	DH59	118	306														
APR 14	16:00	1.0	3.77	20.1	DH59	95	319														
APR 15	12:10	4.2	0.662	2.4 M	DH59	177	292														
APR 15	12:15	4.2	1.33	4.9 M	DH59	251	286														
APR 15	12:20	4.2	1.46	7.3 M	DH59	197	292														
APR 15	12:25	4.2	1.10	9.1 M	DH59	188	284														
APR 15	12:30	4.2	0.529	11.0 M	DH59	185	290														
APR 19	09:00	4.2	45.6	20.1	DH59	4820	250	14	22	33	45	56	67	80	90	98	100		33	45	22
APR 19	16:10	4.2	39.6	20.1	DH59	2640	225	13	19	29	42	54	66	75	87	93	100		34	47	19
APR 23	13:05	4.2	5.49	20.1	DH59	146	264														
APR 24	14:00	5.2	1.02	2.4 M	DH59	174	266														
APR 24	14:05	5.2	1.39	4.9 M	DH59	183	270														
APR 24	14:10	5.2	1.34	6.7 M	DH59	184	272														
APR 24	14:15	5.2	1.44	8.5 M	DH59	206	270														
APR 24	14:30	5.2	0.764	11.0 M	DH59	179	266														
MAY 01	19:10	5.2	3.00	20.1	DH59	269	289														
MAY 02	11:20	5.2	3.06	20.1	DH59	32	263														
MAY 05	16:20	5.2	7.84	20.1	DH59	401	304														
MAY 06	12:50	5.2	7.22	20.1	DH59	292	301														
MAY 06	18:50	5.2	9.57	20.1	DH59	901	287														
MAY 07	13:20	12.0	1.81	2.7 M	DH59	242	284														
MAY 07	13:25	12.0	1.53	4.6 M	DH59	257	283														
MAY 07	13:30	12.0	1.65	6.4 M	DH59	257	281														
MAY 07	13:35	12.0	1.63	8.2 M	DH59	271	284														
MAY 07	13:40	12.0	1.85	10.1 M	DH59	262	284														
MAY 07	14:30	12.0	8.21	20.1	DH59	323	279														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1975

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
MAY 09	19:10	12.0	3.65	20.1	DH59	54	303														
MAY 12	18:40	11.0	2.26	20.1	DH59	50	273														
MAY 15	18:30	15.0	2.12	20.1	DH59	37	273														
MAY 20	19:45	24.0	1.94	20.1	DH59	20	267														
MAY 22	11:30	21.7	1.54	20.1	DH59	19	269														
MAY 26	13:45	21.0	1.74	20.1	DH59	37	259														
JUN 03	12:20	28.0	1.35	20.1	DH59	41	285														
JUN 04	10:20	14.4	1.32	20.1	DH59	42	285														
JUN 06	11:50	18.0	2.10	20.1	DH59	67	296														
JUN 10	11:50	19.0	1.21	20.1	DH59	51	260														
JUN 12	18:45	24.0	1.62	20.1	DH59	41	263														
JUN 13	10:15	19.5	1.90	20.1	DH59	60	289														
JUN 17	18:50	25.0	1.43	20.1	DH59	18	288														
JUN 19	18:40	26.0	2.17	20.1	DH59	42	286														
JUN 26	19:00	27.0	1.06	20.1	DH59	26	269														
JUL 09	11:40	-0.6	0.861	20.1	DH59	43	274														
JUL 10	19:45	22.0	0.929	20.1	DH59	54	282														
JUL 14	12:27	22.0	0.929	20.1	DH59	20	262														
JUL 21	19:25	27.0	1.99	20.1	DH59	156	280														
JUL 22	09:30	21.3	1.58	20.1	DH59	98	265														
AUG 07	19:40	22.5	0.827	20.1	DH59	26	253														
AUG 11	09:55	21.1	0.731	20.1	DH59	36	254														
AUG 12	11:20	24.5	0.731	20.1	DH59	37	252														
AUG 20	09:00	17.5	0.731	20.1	DH59	29	259														
AUG 23	15:00	19.5	0.793	20.1	DH59	28	264														
AUG 24	14:10	19.0	2.64	20.1	DH59	211	265														
SEP 02	12:15	19.5	1.46	20.1	DH59	42	305														
SEP 04	10:45	17.0	1.13	20.1	DH59	44	295														
SEP 08	12:07	19.0	1.00	20.1	DH59	18	278														
SEP 11	09:40	14.0	1.03	20.1	DH59	15	281														
SEP 13	11:45	13.0	1.43	20.1	DH59	27	270														
SEP 19	11:10	11.0	2.40	66.0	DH59	67	286														
SEP 20	11:10	11.0	2.40	20.1	DH59	67	286														
SEP 23	12:45	10.0	1.13	66.0	DH59	11	289														
SEP 24	12:45	10.0	1.13	20.1	DH59	11	289														
OCT 01	09:20	12.0	1.10	20.1	DH59	10	278														
OCT 01	12:00	12.0	1.13	20.1	DH59	10	276														
OCT 10	09:20	12.0	1.13	20.1	DH59	8	290														
OCT 21	10:45	11.0	2.83	20.1	DH59	44	312														
OCT 22	10:30	12.0	1.50	20.1	DH59	13	297														
OCT 23	12:20	12.0	1.54	20.1	DH59	13	283														

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1975

(CONTINUED)

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
OCT 30	09:00	10.0	1.21	20.1	DH59	31	280														
NOV 03	09:10	7.5	1.54	20.1	DH59	11	283														
NOV 06	12:35	7.5	1.28	66.0	DH59	23	263														
NOV 07	12:35	7.5	1.28	20.1	DH59	23	263														
NOV 10	09:05	12.0	1.58	20.1	DH59	50	274														
NOV 12	09:30	6.0	2.21	20.1	DH59	29	298														
NOV 18	12:40	6.0	1.32	20.1	DH59	8	307														
NOV 21	11:50	6.0	1.39	20.1	DH59	30	324														
NOV 27	15:50	6.0	1.46	20.1	DH59	101	271														
DEC 01	09:15	2.0	1.86	20.1	DH59	56	260														
DEC 05	09:10	0.1	1.84	20.1	DH59	86	280														
DEC 12	09:10	0.1	1.62	20.1	DH59	34	287														
DEC 17	12:45	0.3	1.43	20.1	DH59	40	322														
DEC 27	15:50	0.4	2.89	20.1	DH59	32	336														

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HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1976

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 06	14:15	0.1	2.31	20.1	DH59	17	352														
JAN 12	12:15	0.1	3.00	20.1	DH59	32															
JAN 13	10:00	0.1	3.06	20.1	DH59	26	339														
JAN 19	14:20	0.1	3.48	20.1	DH48	72															
JAN 28	15:50	0.0	7.56	20.1	DH59	75	341														
FEB 09	13:30	0.0	3.82	20.1	DH59	69															
FEB 10	13:25		3.82	20.1	DH59	34	354														
FEB 11	10:15	0.0	3.99	20.1	DH59	67															
FEB 15	15:45	0.0	4.16	20.1	DH59	147	340														
FEB 16	08:50	0.0	4.16	20.1	DH59	535	319														
FEB 16	09:00	0.0	4.11	20.1	DH59	544															
FEB 16	12:40	0.0	3.71	20.1	DH59	390	277														
FEB 16	13:40	0.2	3.65	20.1	DH59	373	270														
FEB 16	15:20	0.1	3.48	20.1	DH59	419															
FEB 16	15:30	1.0	3.43	20.1	DH59	409	268														
FEB 17	09:30	0.0	2.45	20.1	DH59	188															
FEB 17	11:25	1.0	3.26	20.1	DH59	1140	327														
FEB 18	08:50	0.0	6.46	20.1	DH59	107															
FEB 18	15:10	1.0	6.20	20.1	DH59	76															
FEB 18	15:20	1.0	6.14	20.1	DH59	74															
FEB 20	11:30	1.0	10.3	20.1	DH59	720															
FEB 24	15:40	0.0	5.24	20.1	DH59	188															
FEB 25	16:10	0.0	4.62	20.1	DH59	204	371														
FEB 27	12:45	1.0	11.2	20.1	DH59	599															
FEB 28	14:00	1.0	7.84	20.1	DH59	445															
MAR 01	10:45	1.0	7.02	20.1	DH59	157	303														
MAR 03	13:25	0.0	2.59	20.1	DH59	34															
MAR 05	09:30	1.0	4.50	20.1	DH59	98															
MAR 05	12:40	1.0	4.98	20.1	DH59	161															
MAR 06	12:50	0.0	11.6	20.1	DH59	528	281														
MAR 07	13:45	0.0	7.36	20.1	DH59	274															
MAR 12	10:25	0.0	4.56	20.1	DH59	74															
MAR 17	14:30	0.0	3.06	20.1	DH59	425															
MAR 20	09:00	6.0	14.2	20.1	DH59	2190	250														
MAR 20	09:15	2.0	14.1	20.1	DH59	2440															
MAR 20	16:25	2.0	35.1	20.1	DH59	5040															
MAR 20	16:35	2.0	35.7	20.1	DH59	4640															
MAR 21	09:15	2.0	39.4	20.1	DH59	2330	204	11	16	26	38	51	63	74	86	97	100		37	47	16
MAR 21	09:30	2.0	39.4	20.1	DH59	1920	204	11	17	29	42	54	68	74	81	94	99	100	32	51	17
MAR 21	11:15	2.0	37.4	20.1	DH59	1590	201	12	19	33	49	65	78	87	95	99	100		22	59	19

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. O2HCO25

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1976

(CONTINUED)

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
MAR 23	12:30	2.5	2.09	16.8 M	DH59	232	238														
MAR 23	12:35	2.5	1.79	20.1 M	DH59	257															
MAR 23	12:40	2.5	1.86	22.2 M	DH59	252															
MAR 23	12:45	2.5	1.30	24.4 M	DH59	281															
MAR 23	13:00	2.5	1.25	25.9 M	DH59	256															
MAR 24	15:50	6.0	7.42	20.1	DH59	312	270														
MAR 27	13:45	6.0	6.68	20.1	DH59	194															
MAR 29	18:45	6.0	4.33	66.0	DH59	93															
MAR 30	18:45	6.0	4.33	20.1	DH59	93															
APR 01	12:15	6.0	10.2	20.1	DH59	462	301														
APR 02	14:50	6.0	6.94	20.1	DH59	123															
APR 05	18:45	7.0	3.48	20.1	DH59	54															
APR 09	08:20	4.5	2.49	20.1	DH59	35															
APR 14	12:50	12.0	2.17	20.1	DH59	56	256														
APR 15	11:05	12.0	2.26	20.1	DH59	53															
APR 26	15:40	6.0	6.68	20.1	DH59	98															
APR 28	13:10	6.0	6.46	20.1	DH59	2770	357	6	9	16	29	43	72	93	98	99	100		28	63	9
MAY 03	13:20	7.0	2.89	20.1	DH59	49															
MAY 07	11:25	7.0	6.74	20.1	DH59	169	305														
MAY 07	11:35	7.0	6.88	20.1	DH59	177															
MAY 11	11:00	13.0	3.26	20.1	DH59	24															
MAY 11	18:20	13.0	3.48	20.1	DH59	257															
MAY 16	14:00	15.0	3.37	20.1	DH59	132	254														
MAY 18	09:10	14.0	4.22	20.1	DH59	90															
MAY 31	11:20	16.0	2.45	20.1	DH59	175	229														
JUN 01	14:20	16.0	4.87	20.1	DH59	146															
JUN 10	12:35	25.0	1.13	20.1	DH59	26															
JUN 15	10:45	23.0	1.32	20.1	DH48	78	277														
JUN 30	08:45	21.0	1.62	20.1	DH59	154															
JUL 01	18:30	21.0	4.22	20.1	DH59	428	304														
JUL 11	19:20	22.0	1.39	20.1	DH59	122															
JUL 13	19:20	22.0	1.39	66.0	DH59	122															
JUL 14	11:00	18.5	1.35	20.1	DH48	128															
JUL 19	09:50	21.0	1.10	20.1	DH48	83	284														
JUL 23	09:55	21.0	1.62	20.1	DH48	182															
JUL 30	09:30	19.5	3.43	20.1	DH48	492	277														
AUG 04	12:45	20.0	1.78	20.1	DH48	79	307														
AUG 17	10:20	19.0	1.35	20.1	DH48	51															
AUG 31	18:48	19.0	0.895	20.1	DH48	34	280														
SEP 10	09:40	14.0	1.10	20.1	DH59	52	276														
SEP 13	09:00	14.0	1.06	20.1	DH59	19															

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1976

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
SEP 15	12:10	20.0	0.929	20.1	DH59	9															
SEP 17	11:00	17.0	2.94	20.1	DH59	181	293														
SEP 23	09:05	12.0	2.12	20.1	DH59	116															
SEP 27	11:05	12.0	1.70	20.1	DH59	46	322														
OCT 08	08:40	8.0	2.35	20.1	DH59	103	305														
OCT 19	14:00	4.0	1.39	20.1	DH59	6															
OCT 21	12:05	2.0	3.77	66.0	DH59	927															
OCT 22	12:05	2.0	3.77	20.1	DH59	927															
OCT 25	09:10	3.0	2.83	66.0	DH59	44	317														
OCT 26	09:10	3.0	2.83	20.1	DH59	44	317														
NOV 02	12:15	4.0	2.03	20.1	DH59	62	289														
NOV 24	08:45	2.0	1.50	20.1	DH59	62	289														
DEC 07	15:20	0.0	2.08	20.1	DH59	30	324														
DEC 10	10:00	0.0	2.45	20.1	DH59	47															
DEC 29	14:00	0.0	2.45	20.1	DH59	46	298														

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1977

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 06	13:20	1.0	3.65	20.1	DH59	112	263														
JAN 07	10:30	0.0	3.65	20.1	DIP	109															
JAN 27	10:10	0.0	4.56	20.1	DIP	101	279														
FEB 13	09:15	2.0	4.05	20.1	DH59	171	1450														
FEB 15	09:15	2.0	4.05	66.0	DH59	171	1450														
FEB 18	09:50	0.0	3.82	20.1	DH59	74															
FEB 25	13:20	0.0	7.42	20.1	DH59	148	656														
FEB 25	13:35	0.0	7.28	20.1	DH59	94	381														
FEB 26	11:25	0.0	5.95	20.1	DH59	44															
MAR 07	18:00	0.0	5.30	20.1	DH59	12															
MAR 10	18:25	0.0	19.2	20.1	DH59	1170	202	9	14	30	49	64	74	77	83	95	100		26	60	14
MAR 11	14:30	1.0	14.0	20.1	DH59	900	213	12	20	36	60	78	90	96	98	100			10	70	20
MAR 11	18:15	0.0	15.2	20.1	DH59	1080	219	20	24	32	35	69	79	86	95	99	100		21	55	24
MAR 12	16:00	2.0	10.9	20.1	DH59	962	238														
MAR 15	09:15	2.0	9.34	20.1	DH59	573	273														
MAR 17	18:00	1.5	4.59	20.1	DH59	82	272														
MAR 21	12:30	4.0	3.54	20.1	DH59	156	372														
MAR 28	18:40	5.0	3.85	20.1	DH59	243															
MAR 30	14:25	13.0	7.22	20.1	DH59	348	313														
APR 01	10:00	1.0	4.47	20.1	DH59	149	276														
APR 03	09:30	1.0	4.19	20.1	DH59	195															
APR 06	08:30	0.0	6.20	20.1	DH59	253	292														
APR 14	09:15	12.0	3.09	20.1	DH59	111	254														
APR 20	08:10	12.0	2.21	20.1	DH59	52															
APR 24	13:55	12.0	3.85	20.1	DH59	112	304														
APR 29	19:00	12.0	1.66	20.1	DH59	56															
MAY 16	18:30	19.0	1.30	20.1	DH59	34	265														
MAY 24	09:25	21.0	1.06	20.1	DH59	49	271														
MAY 25	08:35	20.0	1.58	20.1	DH59	311															
JUN 02	18:35	15.0	1.13	20.1	DH59	275	319														
JUN 20	13:00	20.0	1.13	20.1	DH59	108															
JUN 25	11:00	22.0	0.963	20.1	DH59	149	295														
JUN 27	09:15	22.0	1.54	20.1	DH59	149															
JUL 04	08:20	21.5	0.895	20.1	DIP	100	308														
JUL 08	08:20	18.5	3.96	20.1	DH59	509															
JUL 18	09:15	24.0	0.861	20.1	DIP	97	307														
AUG 05	11:30	24.0	1.70	66.0	DH59	254															
AUG 06	11:30	24.0	1.70	20.1	DH59	254															
AUG 08	10:00	22.0	1.50	20.1	DH59	166	310														
AUG 09	09:50	23.0	1.30	20.1	DIP	154															
AUG 29	17:30	28.0	0.963	20.1	DH59	74	278														

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1977

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
SEP 01	13:10	25.5	0.963	20.1	DH59	20	276														
SEP 01	18:30	30.0	1.13	20.1	DH59	228	279														
SEP 14	18:00	18.0	1.50	20.1	DH59	43															
SEP 20	17:00	17.5	1.70	20.1	DH59	95	278														
SEP 25	10:30	14.0	7.76	20.1	DH59	1850	294	29	40	62	80	88	91	94	97	99	100		9	51	40
SEP 26	17:00	16.0	7.76	20.1	DH59	429	338														
SEP 27	18:30	15.0	6.14	20.1	DH59	1620															
SEP 29	12:50	14.0	3.03	20.1	DH48	83	342														
OCT 01	15:30	8.0	4.08	20.1	DH59	403	329														
OCT 03	19:00	11.0	6.20	20.1	DH59	308	329														
OCT 12	17:00	10.0	4.36	20.1	DH59	255															
OCT 16	10:30	9.0	2.55	20.1	DH59	124	324														
OCT 20	13:50	10.0	2.12	20.1	DH48	31															
OCT 24	17:00	9.0	1.91	20.1	DH59	118	299														
OCT 28	17:00	11.0	2.12	20.1	DH59	60	283														
NOV 03	17:00	12.0	1.50	20.1	DH59	48															
NOV 04	10:30	12.0	1.66	20.1	DH59	32	280														
NOV 05	10:45	12.0	1.66	20.1	DH59	87															
NOV 10	12:07	12.0	3.60	20.1	DH59	110															
NOV 10	14:25	11.0	4.13	20.1	DH59	274	325														
NOV 16	17:30	5.0	2.79	20.1	DH59	50															
NOV 18	16:40	5.5	2.89	20.1	DH59	59	327														
NOV 22	17:45	5.0	3.03	20.1	DH59	37															
NOV 27	17:00	1.0	3.03	20.1	DH59	72	355														
DEC 01	17:00	4.5	10.1	20.1	DH59	820	357														
DEC 04	16:30	2.5	3.54	20.1	DH59	74															
DEC 07	14:30	0.5	2.97	20.1	DH59	38	357														
DEC 09	09:15	0.1	4.64	20.1	DH59	25															
DEC 15	13:20	0.5	8.81	20.1	DH48	91	354														
DEC 16	17:00	2.0	5.83	20.1	DH59	175	347														
DEC 22	16:40	2.0	3.96	20.1	DH59	75															
DEC 27	18:00	1.5	3.54	20.1	DH59	113	349														
DEC 30	17:25	1.5	2.79	20.1	DH59	120															

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1978

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 04	18:25	2.0	3.28	20.1	DH59	67	363														
JAN 07	17:30	1.0	2.34	20.1	DH59	145															
JAN 12	17:10	0.5	3.28	20.1	DH59	175															
JAN 17	16:40	2.0	2.55	20.1	DH59	131	323														
JAN 18	14:05	0.0	2.79	20.1	DH48	84															
JAN 22	16:00	1.0	2.55	20.1	DH59	80															
JAN 24	16:45		2.79	20.1	DH59	90	332														
JAN 27	16:10		5.55	20.1	DH59	81															
FEB 01	14:40		3.96	20.1	DH48	60	344														
FEB 04	17:00		3.54	20.1	DH59	114															
FEB 15	11:20	0.0	3.77	20.1	DH48	21	379														
MAR 13	16:40		4.93	20.1	DH59	91	424														
MAR 14	07:20		5.55	20.1	DH59	61															
MAR 15	06:30		8.13	20.1	DH59	100															
MAR 15	15:45	0.1	7.22	20.1	DH48	124															
MAR 16	19:40		10.1	20.1	DH59	56	360														
MAR 17	19:50		6.77	20.1	DH59	37															
MAR 21	10:30		3.54	20.1	DH59	144															
MAR 21	18:00		5.83	20.1	DH59	199															
MAR 22	13:50		8.95	20.1	DH59	288	314														
MAR 23	14:10		7.84	20.1	DH59	914	312	2	7	16	29	41	50	57	62	76	100		50	43	7
MAR 23	18:00		8.89	20.1	DH59	2050	295														
MAR 24	17:00		10.1	20.1	DH59	582	284														
MAR 25	09:25		6.46	20.1	DH59	276															
MAR 26	09:00		5.83	20.1	DH59	179															
MAR 27	10:50		4.93	20.1	DH59	917	319														
MAR 28	16:45		4.64	20.1	DH59	223															
MAR 30	08:20		13.9	20.1	DH59	110	333														
MAR 30	17:45		8.50	20.1	DH59	886	300														
APR 01	08:10		17.3	20.1	DH59	1860	243	3	10	15	28	42	60	78	86	91	94	100	40	50	10
APR 01	14:10		17.8	20.1	DH59	3870	250	4	6	11	18	27	43	69	85	95	100		57	37	6
APR 01	18:35		18.7	20.1	DH59	6190	240	4	9	14	22	30	46	73	88	97	100		54	37	9
APR 02	10:00		16.0	20.1	DH59	1410	248	1	5	13	25	37	52	71	86	93	100		48	47	5
APR 02	14:50		13.0	20.1	DH59	1200	249	4	8	16	28	42	56	66	83	96	100		44	48	8
APR 03	16:45		9.26	20.1	DH59	538	271														
APR 04	16:36		7.08	20.1	DH59	318															
APR 05	18:30		10.9	20.1	DH59	825															
APR 06	18:30		11.3	20.1	DH59	517	258														
APR 07	07:00		28.0	20.1	DH59	3990	236	10	16	22	31	38	48	60	79	98	100		52	32	16
APR 07	16:48		20.1	20.1	DH59	1140	244														

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HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1978

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
APR 08	11:00		13.9	20.1	DH59	878	251														
APR 08	18:48		12.6	20.1	DH59	716															
APR 10	16:30		6.77	20.1	DH59	684	265														
APR 11	11:30	3.0	12.5	20.1	DH59	1070	270	23	31	44	58	70	80	90	97	100			20	49	31
APR 11	17:00	5.0	15.6	20.1	DH59	1270	266	6	10	19	27	39	52	72	87	96	100		48	42	10
APR 12	11:15	5.0	13.6	20.1	DH59	568	254														
APR 12	17:00	6.0	12.2	20.1	DH59	772															
APR 13	07:00	4.0	11.3	20.1	DH59	558															
APR 13	16:58	5.0	10.5	20.1	DH59	480															
APR 14	16:30	4.0	8.13	20.1	DH59	447															
APR 16	18:45	6.0	4.93	20.1	DH59	451															
APR 18	18:00	8.0	4.36	20.1	DH59	225															
APR 19	18:30	8.0	5.83	20.1	DH59	473	285														
APR 20	16:30	8.0	9.26	20.1	DH59	592															
APR 20	17:50	5.0	9.66	20.1	DH59	802															
APR 21	18:45	4.0	11.8	20.1	DH59	650															
APR 21	19:37	6.0	10.5	20.1	DH59	716															
APR 22	18:21	8.0	6.77	20.1	DH59	1050															
APR 23	17:00	10.0	5.24	20.1	DH59	334	281														
APR 24	15:05	11.0	4.36	20.1	DH59	108															
APR 26	19:05	12.0	3.54	20.1	DH59	69															
APR 28	20:25	14.0	3.03	20.1	DH59	60	284														
MAY 02	19:45	13.0	2.55	20.1	DH59	54	284														
MAY 06	15:30	8.0	2.79	20.1	DH59	87															
MAY 09	17:55	12.0	3.54	20.1	DH59	141	270														
MAY 11	18:00	15.0	3.54	20.1	DH59	73															
MAY 12	16:00	13.0	3.28	20.1	DH59	112															
MAY 13	16:14	14.0	4.64	20.1	DH59	222	276														
MAY 14	17:30	12.0	8.89	20.1	DH59	788															
MAY 15	16:45	12.0	9.66	20.1	DH59	873	266														
MAY 20	17:50	18.0	3.28	20.1	DH59	131	247														
MAY 28	09:15	21.0	2.55	20.1	DH59	119	236														
JUN 07	09:25	21.0	1.62	20.1	DH48	82	254														
JUN 07	19:45	19.0	1.89	20.1	DH59	96															
JUL 07	13:40	27.0	1.01	20.1	DH48	39	264														
JUL 10	11:40	25.0	1.01	20.1	DH48	57	280														
JUL 13	19:33	22.0	0.790	20.1	DH59	60															
JUL 18	10:00	21.0	0.680	20.1	DH48	49															
JUL 18	21:45	25.0	0.790	20.1	DH59	53															
JUL 19	20:20	26.0	0.790	20.1	DH59	57	261														
JUL 21	11:05	24.0	0.900	20.1	DH59	87															

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HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1978

(CONTINUED)

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JUL 24	19:45	24.0	0.900	20.1	DH59	62															
JUL 30	17:35	22.0	0.900	20.1	DH59	26	260														
AUG 04	12:30	22.0	1.24	20.1	DH59	23	260														
AUG 15	18:15	25.0	1.89	20.1	DH59	5610	274	39	50	74	90	97	98	99	100				2	48	50
AUG 16	19:04	22.0	5.05	20.1	DH59	113	263														
AUG 25	16:30	19.0	3.92	20.1	DH59	703															
AUG 27	18:00	21.0	1.62	20.1	DH59	111															
AUG 29	17:45	23.0	1.49	20.1	DH59	107	315														
SEP 08	19:40	18.0	1.36	20.1	DH59	79	284														
SEP 19	19:50	12.0	5.64	20.1	DH59	942															
SEP 29	11:30	13.0	1.24	20.1	DH48	34	302														
SEP 29	18:00	15.0	1.24	20.1	DH59	74															
OCT 03	18:41	12.0	1.62	20.1	DH59	58	303														
OCT 13	18:00	12.0	1.75	20.1	DH59	58	305														
OCT 15	18:30	8.0	1.36	20.1	DH59	24															
OCT 20	12:45	7.0	1.36	20.1	DH48	12	317														
OCT 23	17:30	8.0	1.24	20.1	DH59	62															
NOV 16	10:40	5.5	1.89	20.1	DH48	18	331														
NOV 18	13:10	6.0	3.40	20.1	DH59	378															
NOV 23	19:45	3.0	2.03	20.1	DH59	50	326														
NOV 28	16:30	0.0	1.89	20.1	DH59	78															
DEC 04	14:15	0.0	2.60	20.1	DH48	49															
DEC 06	19:00	0.0	2.75	20.1	DH59	100	318														
DEC 13	17:00	2.0	2.17	20.1	DH59	69															
DEC 14	12:30	0.0	1.75	20.1	DH48	23	341														
DEC 23	14:31	1.0	1.89	20.1	DH59	65															
DEC 29	14:02	0.0	2.17	20.1	DH59	70	314														

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1979

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 02	15:50	2.0	6.65	20.1	DH59	775	305														
JAN 02	18:35	0.1	6.24	20.1	DH59	395															
JAN 09	10:30	0.1	8.69	20.1	DH59	16	363														
JAN 12	15:09	0.1	5.64	66.0	DH59	109	313														
JAN 23	11:45	0.1	5.44	20.1	DH59	15															
FEB 27	13:20	0.1	9.97	20.1	DH59	38															
MAR 05	15:30	0.1	28.6	20.1	DH59	861	162														
MAR 05	17:00	0.1	26.5	20.1	DH59	2580															
MAR 06	07:05	0.1	20.0	20.1	DH59	554															
MAR 06	12:00	0.1	16.9	20.1	DH59	539	183														
MAR 06	18:27	1.0	14.4	20.1	DH59	677															
MAR 08	17:00	0.1	11.1	20.1	DH59	939															
MAR 09	19:30	0.1	9.97	20.1	DH59	473	278														
MAR 13	18:10	0.1	5.44	20.1	DH59	1070															
MAR 14	18:45	0.1	20.6	20.1	DH59	1710															
MAR 15	07:00	0.1	10.8	20.1	DH59	1060	281														
MAR 24	12:02	0.1	10.2	20.1	DH59	1910															
MAR 25	14:20	0.1	17.8	20.1	DH59	663															
MAR 28	18:41	2.0	4.29	20.1	DH59	186	279														
MAR 29	18:15	5.0	4.10	20.1	DH59	119															
MAR 31	11:00	11.0	6.85	20.1	DH59	302															
APR 02	18:10		6.24	20.1	DH59	364	310														
APR 04	18:15		5.05	20.1	DH59	375															
APR 16	19:05		8.69	20.1	DH59	359															
APR 23	13:10	10.0	1.75	20.1	DH48	56	306														
APR 24	18:17		3.23	20.1	DH59	101															
MAY 03	20:00		3.92	20.1	DH59	108															
MAY 11	19:12		1.24	20.1	DH59	70	262														
MAY 13	17:45		5.83	20.1	DH59	244															
MAY 14	18:45		3.92	20.1	DH59	107															
MAY 24	10:30	16.0	2.03	20.1	DH59	67	250														
MAY 31	12:40	18.0	2.60	20.1	DH59	67															
MAY 31	20:30	19.0	3.23	20.1	DH59	81															
JUN 10	20:30	24.0	2.31	20.1	DH59	461	279														
JUN 13	19:46	19.0	1.49	20.1	DH59	93															
JUN 17	21:36	24.0	1.24	20.1	DH59	74															
JUN 21	16:30	22.0	0.900	20.1	DH59	48	345														
JUN 26	21:15	22.0	1.24	20.1	DH59	63															
JUN 28	11:00	20.0	1.24	20.1	DH48	60															
JUL 03	19:15	21.0	1.62	20.1	DH59	65	353														
JUL 09	18:55	24.0	0.900	20.1	DH59	18															

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HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1979

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JUL 10	15:21	22.0	1.01	20.1	DH59	34															
JUL 11	16:29	23.0	3.57	20.1	DH59	1320	300														
JUL 12	18:45	26.0	2.31	20.1	DH59	167															
JUL 17	20:25	22.5	1.24	20.1	DH59	56															
JUL 23	18:54	26.0	0.790	20.1	DH59	40															
JUL 25	18:30	25.0	1.12	20.1	DH59	140	302														
AUG 01	20:00	24.0	1.49	20.1	DH59	68															
AUG 07	12:36	22.5	1.01	20.1	DH59	70															
AUG 07	18:40	23.0	1.01	20.1	DH59	71	320														
AUG 09	18:30	21.0	1.62	20.1	DH59	56															
AUG 11	15:46	15.0	1.84	20.1	DH59	73															
AUG 13	21:13	18.0	1.12	20.1	DH59	54	299														
AUG 15	20:00	16.0	1.01	20.1	DH59	44															
AUG 20	17:04	23.0	1.12	20.1	DH59	17															
AUG 26	14:58	21.0	1.62	20.1	DH59	54	352														
SEP 02	11:10	22.0	1.01	20.1	DH59	30															
SEP 03	19:26	21.0	1.62	20.1	DH59	44															
SEP 09	20:13	17.0	1.01	20.1	DH59	28	293														
SEP 10	18:21	16.5	1.01	20.1	DH59	7															
SEP 13	18:44	19.0	1.01	20.1	DH59	14															
SEP 15	19:10	16.0	3.06	20.1	DH59	137	306														
SEP 17	19:16	18.0	1.49	20.1	DH59	38															
SEP 20	19:35	15.0	0.900	20.1	DH59	58															
SEP 22	17:32	14.5	1.01	20.1	DH59	31															
SEP 24	10:37	12.0	1.01	20.1	DH59	15															
SEP 24	19:10	15.5	1.01	20.1	DH59	24	306														
OCT 01	18:37	16.0	1.12	20.1	DH59	16															
OCT 02	18:49	16.5	1.36	20.1	DH59	64															
OCT 04	17:26	13.5	1.36	20.1	DH59	79	311														
OCT 09	12:36	9.0	2.31	20.1	DH59	76															
OCT 10	18:26	8.0	2.60	20.1	DH59	53															
OCT 15	18:39	9.0	1.75	20.1	DH59	68	366														
OCT 18	18:50	8.0	1.75	20.1	DH59	38															
OCT 22	18:35	7.0	2.75	20.1	DH59	60															
OCT 31	16:24	8.0	1.62	20.1	DH59	27	380														
NOV 07	16:31	4.5	1.75	20.1	DH59	16															
NOV 19	16:22	6.0	1.75	20.1	DH59	17															
NOV 25	15:11	6.5	4.47	20.1	DH59	266	391														
NOV 26	17:23	8.0	8.69	20.1	DH59	1290	331	36	39	57	78	81	85	88	93	97	100		15	46	39
NOV 27	18:31	7.0	5.44	20.1	DH59	264															
DEC 06	10:40	2.0	2.31	20.1	DH59	28															

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HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1979

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
DEC 11	16:25	3.9	2.03	20.1	DH59	31	372														
DEC 23	13:58	1.8	4.86	20.1	DH59	158															
DEC 25	17:16	2.0	24.1	20.1	DH59	1360	268	14	16	29	45	59	75	84	92	96	98	100	25	59	16
DEC 28	14:28		4.29	20.1	DH59	100															
DEC 30	11:01		3.23	20.1	DH59	67	346														

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1980

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 05	14:28		1.49	22.9	DH59	125															
JAN 13	15:43		5.46	22.9	DH59	101															
JAN 14	11:05	2.5	4.56	22.9	DH59	117	281														
JAN 27	14:19	0.5	1.90	22.9	DH59	45	374														
FEB 11	12:05	0.5	3.19	22.9	DH59	29															
FEB 22	16:08	1.0	3.06	22.9	DH59	18															
MAR 06	12:35	1.5	3.09	22.9	DH59	12															
MAR 10	16:51	2.0	3.66	22.9	DH59	119															
MAR 17	18:03	2.0	5.27	22.9	DH59	353															
MAR 19	18:10	3.0	11.7	22.9	DH59	372	299														
MAR 20	11:35	3.5	24.6	22.9	DH59	489															
MAR 20	14:17	3.5	10.2	22.9	DH59	337															
MAR 21	10:39	2.0	16.1	22.9	DH59	1140	259														
MAR 24	12:06	1.5	0.966	4.0 M	DH48	297	265														
MAR 24	12:10	1.5	1.08	7.0 M	DH48	307															
MAR 24	12:15	1.5	1.66	9.0 M	DH48	275															
MAR 24	12:20	1.5	2.15	12.0 M	DH48	302	259														
MAR 26	18:26	3.0	5.16	22.9	DH59	310															
MAR 29	12:21	3.0	4.43	22.9	DH59	266															
APR 01	18:33	6.5	4.38	22.9	DH59	286	315														
APR 02	19:00	6.0	4.09	22.9	DH59	250															
APR 03	16:33	6.0	3.51	22.9	DH59	122															
APR 09	18:35	8.0	10.3	22.9	DH59	1480	318														
APR 10	18:30	6.0	7.17	22.9	DH59	319															
APR 12	13:17	6.0	4.27	22.9	DH59	202	354														
APR 14	21:36	5.0	17.1	22.9	DH59	5990	348														
APR 15	13:10	3.0	17.8	22.9	DH59	1590	301														
APR 15	18:18	3.0	14.9	22.9	DH59	1290	281														
APR 17	18:17	6.0	4.18	22.9	DH59	175															
APR 18	17:26	9.5	3.24	22.9	DH59	116															
APR 19	18:29	12.0	2.77	22.9	DH59	89	346														
APR 23	18:39	12.0	2.89	22.9	DH59	44															
APR 29	18:27	9.0	10.8	22.9	DH59	1060															
APR 30	12:30	9.0	7.58	22.9	DH59	286															
MAY 07	18:48	12.0	2.39	22.9	DH59	46	342														
MAY 14	18:54	13.0	3.51	22.9	DH59	202															
MAY 26	19:25	18.0	1.53	22.9	DH59	25															
MAY 29	10:50	15.0	1.55	22.9	DH59	37	303														
MAY 31	20:10	20.0	1.27	22.9	DH59	48															
JUN 06	11:00	17.0	1.62	22.9	DH59	57															
JUN 10	19:55	13.0	1.54	22.9	DH59	121	307														

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1980

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JUL 02	19:42	23.0	0.680	22.9	DH59	39															
JUL 24	19:48	23.0	1.27	22.9	DH59	162															
JUL 27	15:00	24.0	0.960	22.9	DH59	147	305														
JUL 29	18:42	22.0	6.02	22.9	DH59	202															
JUL 31	12:05	22.0	1.90	22.9	DH59	372															
AUG 08	16:28	26.0	0.380	22.9	DH59	19	348														
AUG 14	17:16	24.0	1.12	22.9	DH59	59															
AUG 25	18:10	26.0	0.680	22.9	DH59	26															
SEP 24	12:30		1.19	22.9	DH59	46															
SEP 26	12:12	13.5	1.36	22.9	DH59	33	308														
OCT 10	09:05	8.0	1.33	22.9	DH59	43															
OCT 16	10:20	7.5	1.19	22.9	DH59	45															
OCT 21	11:24	9.0	1.64	22.9	DH59	36	276														
OCT 23	17:43	6.0	1.23	22.9	DH59	25															
OCT 26	16:50	6.5	4.72	22.9	DH59	165															
OCT 29	17:12	6.0	1.89	22.9	DH59	30	272														
NOV 01	16:29	6.0	1.41	22.9	DH59	27															
NOV 05	17:16	5.5	1.64	22.9	DH59	29															
NOV 11	15:52	3.0	1.89	22.9	DH59	53	271														
NOV 14	12:16	4.5	1.83	22.9	DH59	34															
NOV 20	11:30	4.0	1.42	22.9	DH59	60	265														
NOV 21	13:25	3.0	1.50	22.9	DH59	70															
DEC 02	17:00	4.0	4.34	22.9	DH59	272															
DEC 05	17:00	4.0	2.23	22.9	DH59	63															
DEC 29	12:42	0.1	2.45	22.9	DH59	44	312														

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1981

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 12	12:53	0.1	3.73	22.9	DH59	97															
FEB 22	17:00	1.0	14.5	22.9	DH59	423															
MAR 08	18:33	4.0	2.45	22.9	DH59	47	331														
MAR 11	11:00	1.0	2.45	22.9	DH59	80															
APR 23	10:45	8.0	1.71	22.9	DH59	5															
MAY 05	19:33	14.0	1.54	22.9	DH59	12	261														
MAY 06	11:05	14.0	1.65	22.9	DH59	9															
MAY 15	20:05	11.0	2.99	75.0	DH59	40															
MAY 16	20:05	11.0	2.99	22.9	DH59	40															
JUN 10	11:15	18.0	0.910	22.9	DH59	67	284														
JUN 14	19:00	21.0	1.28	22.9	DH59	66															
JUN 16	12:00	26.0	1.11	22.9	DH59	67															
JUN 26	11:30	19.0	1.36	22.9	DH59	74	321														
JUN 28	07:40	20.0	0.850	22.9	DH59	62															
JUN 30	21:30	24.0	2.26	22.9	DH59	27															
JUL 06	11:45	24.0	16.0	22.9	DH59	579															
JUL 14	12:30	24.0	1.82	22.9	DH59	47	297														
JUL 23	08:30	19.0	1.61	22.9	DH59	21															
AUG 22	15:40	25.0	1.71	22.9	DH59	12															
AUG 23	19:50	23.0	1.75	22.9	DH59	14	277														
AUG 31	13:00	21.0	3.04	22.9	DH59	84															
AUG 31	20:00	22.0	3.09	22.9	DH59	80															
SEP 04	19:00	21.0	5.52	22.9	DH59	349															
SEP 14	18:00	21.0	2.14	22.9	DH59	7															
SEP 21	07:45	20.0	2.11	22.9	DH59	7															
SEP 23	11:15	11.5	2.95	22.9	DH59	12	332														
SEP 27	19:10	16.0	1.69	22.9	DH59	12															
OCT 09	18:30	9.0	2.04	22.9	DH59	17															
OCT 16	18:00	11.0	1.95	22.9	DH59	8	320														
OCT 19	17:30	8.0	3.44	22.9	DH59	23															
OCT 23	17:30	6.0	3.49	22.9	DH59	23															
OCT 28	11:45	8.0	7.17	22.9	DH59	264	381														
OCT 30	17:30	8.0	3.39	22.9	DH59	25															
NOV 09	11:00	4.5	1.81	22.9	DH59	15															
NOV 17	09:30	4.0	3.53	22.9	DH59	28															
NOV 30	10:30	1.0	3.39	22.9	DH59	21															
DEC 16	11:15	0.1	2.05	22.9	DH59	10															

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1982

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 05	10:20	0.1	5.83	22.9	DH48	69	375														
JAN 14	11:15	0.1	6.91	22.9	DH48	83															
FEB 09	10:00	0.1	6.67	22.9	DH48	32															
MAR 11	08:50	0.1	4.95	22.9	DH48	29	286														
MAR 14	10:00	0.1	30.1	22.9	DH59	225															
MAR 19	12:40	1.0	8.71	22.9	DH59	443															
MAR 31	16:00	3.0	37.8	22.9	DH59	2800	199	11	14	25	42	62	78	86	93	98	99	100	22	64	14
MAR 31	17:05	3.0	39.1	22.9	DH59	3100	230	6	12	21	35	53	74	88	95	98	100		26	62	12
APR 01	08:10	1.0	44.3	22.9	DH59	1850															
APR 01	11:25	2.0	38.6	22.9	DH59	1540	206														
APR 01	12:30	2.0	36.4	22.9	DH59	1510															
APR 03	16:00	3.0	22.1	22.9	DH59	1510															
APR 13	12:50	4.0	5.42	22.9	DH59	183															
APR 27	10:15	9.0	2.80	22.9	DH59	27															
MAY 07	11:30	17.0	1.90	22.9	DH59	13															
MAY 10	18:15	17.0	2.47	22.9	DH59	16	321														
MAY 11	16:20	20.0	2.08	22.9	DH59	21															
MAY 12	18:40	19.0	1.92	22.9	DH59	10															
MAY 13	16:15	21.0	1.86	22.9	DH59	20															
MAY 14	16:45	22.0	1.83	22.9	DH59	81															
MAY 16	16:45	21.0	1.85	22.9	DH59	12															
MAY 19	16:20	20.0	1.58	22.9	DH59	32															
MAY 21	16:30	24.0	1.88	22.9	DH59	19															
MAY 25	18:40	18.0	2.06	22.9	DH59	49	284														
MAY 26	17:00	21.0	1.61	22.9	DH59	20															
MAY 28	16:40	22.0	2.11	22.9	DH59	49															
JUN 01	20:00	18.0	2.18	22.9	DH59	90															
JUN 07	16:50	19.0	4.16	22.9	DH59	196															
JUN 10	18:30	20.0	1.92	22.9	DH59	87															
JUN 16	10:10	17.0	3.57	22.9	DH59	179															
JUN 17	16:45	19.0	3.09	22.9	DH59	83															
JUN 21	11:30	15.0	3.01	22.9	DH59	165															
JUN 26	16:45	18.0	4.52	22.9	DH59	252	329														
JUN 29	16:45	22.0	3.87	22.9	DH59	561															
JUN 30	12:30	20.0	2.26	22.9	DH59	101															
JUL 11	07:15	26.0	0.870	75.0	DH59	74															
JUL 11	19:15	26.0	0.870	22.9	DH59	74															
JUL 16	13:00	28.0	0.770	22.9	DH59	23															
JUL 20	10:00	24.0	1.89	22.9	DH59	184															
JUL 21	11:20	24.0	1.23	22.9	DH59	62															
JUL 21	18:30	28.0	0.680	75.0	DH59	22															

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1982

(CONTINUED)

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JUL 28	06:45	27.0	2.61	75.0	DH59	857	356														
AUG 02	18:20	20.0	1.75	75.0	DH59	54															
AUG 03	18:20	20.0	1.75	22.9	DH59	54															
AUG 11	11:30	20.0	1.14	22.9	DH59	27															
AUG 16	07:15	25.0	0.800	75.0	DH59	11															
AUG 16	19:15	25.0	0.800	22.9	DH59	11															
AUG 26	08:35	16.0	4.76	22.9	DH59	270															
AUG 27	15:45	18.0	2.23	22.9	DH59	31															
SEP 01	09:46	16.0	1.15	22.9	DH59	33	339														
SEP 02	09:55	16.0	1.24	22.9	DH59	81															
SEP 04	13:57	18.0	1.23	22.9	DH59	25															
SEP 08	06:45	15.0	1.03	75.0	DH59	22															
SEP 08	18:45	15.0	1.03	22.9	DH59	22															
SEP 16	10:15	16.0	3.62	22.9	DH59	138															
SEP 20	16:30	17.0	1.58	22.9	DH59	50															
SEP 21	16:36	14.0	1.68	22.9	DH59	33															
SEP 28	09:40	13.0	4.02	22.9	DH59	113															
SEP 28	06:10	15.0	0.790	75.0	DH59	198															
SEP 28	18:10	15.0	0.790	22.9	DH59	198															
OCT 15	12:45	19.0	1.50	22.9	DH59	8															
OCT 19	17:05	8.0	1.72	22.9	DH59	34	357														
OCT 20	18:25	9.0	1.71	22.9	DH59	45															
OCT 21	15:30	9.0	1.71	22.9	DH59	43															
OCT 27	16:50	9.0	1.42	22.9	DH59	39															
OCT 28	16:40	9.0	1.44	22.9	DH59	25															
NOV 15	09:50	2.0	2.53	75.0	DH59	13															
NOV 15	10:50	2.0	2.53	22.9	DH59	13															
NOV 21	16:36	2.0	1.41	22.9	DH59	91															
NOV 22	16:05	0.1	1.45	22.9	DH59	77															
NOV 29	15:05	0.1	2.89	22.9	DH59	25															
NOV 30	16:45	0.1	2.94	22.9	DH59	22															
DEC 01	11:45	4.0	4.66	22.9	DH48	86	279														
DEC 01	12:21	4.0	0.614	2.4 M	DH48	98															
DEC 01	12:25	4.0	0.783	4.8 M	DH48	60															
DEC 01	12:30	4.0	0.935	6.6 M	DH48	90															
DEC 01	12:35	4.0	1.07	8.4 M	DH48	83															
DEC 01	12:40	4.0	0.856	10.8 M	DH48	61															
DEC 07	18:30	3.0	1.51	22.9	DH48	297															

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1983

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 04	14:30	0.1	1.58	22.9	DH59	24															
JAN 12	17:05	3.0	5.65	22.9	DH48	305															
FEB 08	13:00	0.1	2.52	22.9	DH48	60															
FEB 21	16:45	2.0	2.88	22.9	DH48	328	252														
MAR 02	18:15	4.0	2.27	22.9	DH48	63															
MAR 07	12:20	5.5	4.67	22.9	DH48	406															
MAR 14	16:00	6.0	2.74	22.9	DH48	46															
APR 08	18:45	8.0	5.53	22.9	DH48	81															
APR 12	14:50		6.01	22.9	DH48	79															
APR 12	18:20	8.0	5.79	22.9	DH48	129															
MAY 03	10:50	10.0	3.73	5.8 M	DH59	1070	318	3	9	25	45	69	82	90	94	96	97	100	18	73	9
MAY 03	10:55	10.0	3.25	7.5 M	DH59	1130	320	9	13	29	50	74	88	93	97	99	100		12	75	13
MAY 03	11:00	10.0	3.56	9.8 M	DH59	1090															
MAY 03	11:05	10.0	3.47	13.0 M	DH59	941															
MAY 03	11:45	10.0	2.07	15.4 M	DH59	916															
MAY 04	09:10	10.0	9.59	22.9	DH48	296															
MAY 27	09:50	10.0	2.83	22.9	DH48	14															
JUN 03	07:55		2.58	22.9	DH48	51															
JUN 14	09:30	23.0	1.66	22.9	DH48	31															
JUL 08	13:15	21.0	1.29	22.9	DH48	48															
JUL 12	12:25	28.0	1.06	22.9	DH48	61															
AUG 09	13:14	24.0	1.01	22.9	DH48	36															
SEP 14	12:15	16.0	0.820	22.9	DH48	30															
SEP 27	12:50	14.0	1.24	22.9	DH48	33															
SEP 28	09:30	14.0	1.22	22.9	DH48	40															
OCT 20	09:25	8.0	1.34	22.9	DH48	14															
NOV 04	14:00	4.0	1.88	22.9	DH48	20	269														
NOV 07	16:55	7.0	1.72	75.0	DH48	26															
NOV 08	16:55	7.0	1.72	22.9	DH48	26															
NOV 15	13:05	5.0	1.84	22.9	DH48	9															
NOV 17	13:12	4.0	3.95	22.9	DH48	8															

NOTE :

VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1984

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 04	12:30	0.1	1.62	17.6	DH48	56	252														
JAN 17	15:00	0.1	1.43	17.6	DH48	80															
FEB 06	09:45	0.1	2.03 W	17.6	DH48	69															
FEB 06	19:45	0.1	2.03	17.6	DH48	69															
FEB 14	12:20		20.0	17.6	DH59	1310															
FEB 14	18:00		20.0	17.6	DH59	864															
MAR 23	13:30		8.00	17.6	DH48	322															
APR 05	16:55	5.0	14.6	17.6	DH59	1800	338	16	19	29	54	71	84	92	97	99	100		16	65	19
APR 11	11:20	8.0	4.24	17.6	DH48	40	340														
APR 18	13:07	9.0	7.25	17.6	DH48	79															
APR 27	10:00	13.0	3.24	17.6	DH48	14	348														
MAY 10	11:30	13.0	3.60	17.6	DH48	16	364														
MAY 17	10:40	12.0	2.36	17.6	DH48	9															
MAY 25	14:35	12.0	3.24	17.6	DH48	43	318														
MAY 31	12:20	12.0	4.06	17.6	DH48	49	336														
JUN 05	10:30	18.0	2.16	17.6	DH48	21															
JUN 18	10:55	21.0	1.97	17.6	DH48	101	366														
JUL 04	14:40	23.0	1.18	17.6	DH48	36															
JUL 18	14:30	23.0	1.29	17.6	DH48	53															
JUL 31	10:10	22.0	0.977	17.6	DH48	21	376														
AUG 15	14:20	27.0	1.03	17.6	DH48	34															
AUG 22	11:05	26.0	1.06	17.6	DH48	55															
AUG 28	09:40	22.0	0.984	17.6	DH48	57															
SEP 19	14:45	18.0	1.33	17.6	DH48	25	316														
OCT 09	12:10	12.0	1.60	17.6	DH48	7															
OCT 17	10:35	11.0	1.33	17.6	DH48	8															
OCT 25	13:45	8.0	1.46	17.6	DH48	9															
OCT 26	09:25	8.0	1.53	17.6	DH48	7															
NOV 02	14:30	7.0	1.45	17.6	DH48	1	363														
NOV 08	15:50	8.0	1.96	17.6	DH48	5															
NOV 10	13:08	7.5	2.07	17.6	DH48	24															
NOV 11	14:30	7.0	4.15	17.6	DH48	125	388														
NOV 15	13:10	3.0	2.22	17.6	DH48	32															
NOV 18	17:55	2.0	1.98	17.6	DH48	22															
NOV 20	17:15	0.1	2.06	17.6	DH48	54	311														
NOV 22	13:15	1.0	1.58	17.6	DH48	56															
NOV 25	12:40	0.5	1.98	17.6	DH48	52	294														
NOV 27	09:00	2.0	1.83	17.6	DH48	35															
NOV 28	14:15	3.0	1.74	17.6	DH48	44															
DEC 03	13:35	2.0	1.70	17.6	DH48	19															
DEC 05	12:00	0.5	1.18	17.6	DH48	27	301														

NOTE :

DISCHARGE SYMBOL(S): W - DAILY MEAN; ICE CONDITIONS

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1984

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
DEC 06	15:45	0.5	1.69	17.6	DH48	40															
DEC 09	12:50	0.1	1.48	17.6	DH48	88															
DEC 11	16:23	0.1	1.67	17.6	DH48	47	286														
DEC 13	17:15	0.5	2.70	17.6	DH48	572	347	29	36	64	88	94	96	98	100				4	60	36
DEC 17	11:00	5.0	2.56	17.6	DH48	38															
DEC 18	15:07	3.0	2.42	17.6	DH48	24															
DEC 22	10:20	0.5	4.13	17.6	DH48	95	326														
DEC 23	12:35	0.5	3.24	17.6	DH48	66	339														
DEC 28	15:55	0.1	1.60	17.6	DH48	18															
DEC 29	14:20	0.5	7.50	WERB	SURF	2550	322	10	12	23	41	65	94	99	100				6	82	12

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1985

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 01	14:39	0.1	3.00 W	17.6	DH48	60	315														
JAN 03	11:10	0.1	2.12	17.6	DH48	52															
JAN 05	11:23	0.1	1.54 W	17.6	DH48	66															
JAN 10	11:40	0.1	1.32 W	17.6	DH48	61	280														
JAN 12	16:50	0.1	1.31 W	17.6	DH48	65															
JAN 14	11:55	0.1	1.30 W	17.6	DH48	32															
JAN 17	09:15	0.1	1.28 W	17.6	DH48	24															
JAN 21	09:10	0.1	1.25 W	17.6	DH48	34															
JAN 26	14:20	0.1	1.22 W	17.6	DH48	65															
JAN 31	17:45	0.1	1.18 W	17.6	DH48	50															
FEB 07	17:45	0.1	1.15 W	17.6	DH48	61	269														
FEB 10	17:20	0.1	1.13 W	17.6	DH48	46															
FEB 12	16:13	0.1	1.38 W	17.6	DH48	47															
FEB 17	17:23	0.1	2.04 W	17.6	DH48	42															
FEB 20	10:10	0.1	1.89	17.6	DH48	56	330														
FEB 21	16:55	0.1	1.85 W	17.6	DH48	50															
FEB 22	14:30	0.1	1.99 W	17.6	DH48	75															
FEB 23	14:00	0.1	8.20 W	WERB X	DIP	187															
FEB 23	20:29	0.1	8.20 W	WERB X	SURF	297															
FEB 23	22:40	0.1	8.20 W	WERB X	SURF	487	358														
FEB 24	09:25	0.1	27.7 W	17.6	DH59	562															
FEB 24	11:30	0.1	27.7 W	17.6	DH59	1870	249														
FEB 24	14:14	0.1	27.7	17.6	DH59	848	233														
FEB 25	09:00	0.1	35.7	17.6	DH59	528															
FEB 25	18:10	0.1	5.56	7.0 M	DH59	559	225														
FEB 25	18:11	0.1	9.53	10.0 M	DH59	667	216														
FEB 25	18:12	0.1	4.30	13.0 M	DH59	652	239														
FEB 25	18:13	0.1	2.42	14.3 M	DH59	612	244														
FEB 25	18:15	0.1	7.20	16.0 M	DH59	619	237														
MAR 02	16:09	0.1	7.80 W	17.6	DH48	220															
MAR 06	17:00	0.5	2.17 W	17.6	DH48	100															
MAR 09	16:35	0.5	3.11 W	17.6	DH48	168															
MAR 12	09:30	0.5	22.2	17.6	DH59	393															
MAR 12	12:15	0.5	25.7	17.6	DH59	1960	235														
MAR 12	16:45	0.5	23.6	17.6	DH59	1580															
MAR 12	17:50	0.5	2.49	4.8 M	DH59	1310	228														
MAR 12	17:53	0.5	6.09	8.0 M	DH59	1440	218														
MAR 12	17:56	0.5	6.60	11.2 M	DH59	1470	212														
MAR 12	17:59	0.5	6.81	14.4 M	DH59	1400	218														
MAR 12	18:05	0.5	2.61	17.6 M	DH59	1190	232														
MAR 19	17:11	1.5	4.35	17.6	DH48	128															

NOTE : SINGLE VERTICAL LOCATED AT 17.6 METRES FOR 1985

DISCHARGE SYMBOL(S): W - DAILY MEAN; ICE CONDITIONS
VERTICAL SYMBOL(S): M - A SEDIMENT MEASUREMENT VERTICAL . X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1985

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
MAR 20	14:05	1.0	5.20	17.6	DH48	109															
MAR 21	13:39	2.0	4.60	17.6	DH48	81															
MAR 23	10:18	2.0	4.31	17.6	DH48	103	292														
MAR 24	18:29	2.5	4.98	17.6	DH48	70															
MAR 27	18:25	5.0	4.98	17.6	DH48	139															
MAR 28	12:28	4.0	12.2	17.6	DH59	828															
MAR 28	16:30	6.0	20.4	17.6	DH59	2150															
MAR 28	18:02	4.0	22.4	17.6	DH59	2840	258														
MAR 29	07:32	2.0	20.7	17.6	DH59	848															
MAR 29	11:45	2.0	21.0	17.6	DH59	1410															
MAR 29	18:55	2.0	19.8	17.6	DH59	777	240														
MAR 30	18:56	3.0	12.6	17.6	DH59	340															
APR 01	18:25	2.0	14.2	17.6	DH59	246															
APR 03	18:43	1.5	6.78	17.6	DH48	93															
APR 05	08:48	2.5	27.1	17.6	DH59	3000	271														
APR 05	13:25	2.5	24.6	17.6	DH59	2260															
APR 07	15:00	4.0	13.7	17.6	DH59	368	302														
APR 10	18:57	3.0	4.98	17.6	DH48	125															
APR 12	17:35	8.0	4.82	17.6	DH48	62															
APR 13	17:42	8.0	4.69	17.6	DH48	43															
APR 16	15:10	13.0	5.67	17.6	DH48	95															
APR 20	16:55	12.0	6.45	17.6	DH48	118															
APR 23	16:05	19.0	3.51	17.6	DH48	38															
APR 28	11:10	12.0	2.55	17.6	DH48	48															
MAY 05	08:30	11.0	2.06	17.6	DH48	28															
MAY 20	20:20	15.0	1.83	17.6	DH48	51	373														
MAY 27	07:25	14.0	2.84	17.6	DH48	218	340														
MAY 27	11:10	14.0	3.20	17.6	DH48	171															
MAY 27	18:40	14.0	4.02	17.6	DH48	271															
JUN 01	17:30	17.0	8.04	17.6	DH48	453	348														
JUN 09	09:52	20.0	1.55	17.6	DH48	42															
JUN 18	10:35	19.0	1.78	17.6	DH48	49															
JUN 22	18:10	19.0	1.84	17.6	DH48	306	352														
JUN 30	12:32	24.5	1.19	17.6	DH48	11															
JUL 03	14:05	25.0	1.22	17.6	DH48	29															
JUL 06	13:55	21.5	1.47	17.6	DH48	1310	346														
JUL 13	14:25	25.0	1.07	17.6	DH48	61															
JUL 16	09:30	19.0	8.64	17.6	DH48	604	303														
JUL 22	13:45	24.0	1.16	17.6	DH48	52															
JUL 24	08:20	21.0	1.08	17.6	DH48	62															
JUL 29	10:12	23.0	1.06	17.6	DH48	41															

NOTE : SINGLE VERTICAL LOCATED AT 17.6 METRES FOR 1985

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1985

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
AUG 05	13:15	24.0	0.980	17.6	DH48	51															
AUG 15	06:45	22.0	1.15	17.6	DH48	88															
AUG 19	07:25	19.0	2.65	17.6	DH48	485	297														
AUG 25	10:34	16.0	4.02	17.6	DH48	387															
AUG 26	06:43	17.0	3.15	17.6	DH48	294															
AUG 26	13:46	19.0	4.05	17.6	DH48	226	282														
AUG 30	07:47	16.0	2.31	17.6	DH48	195															
SEP 06	12:58	22.0	6.20	17.6	DH48	377	342														
SEP 07	08:25	21.0	3.67	17.6	DH48	168															
SEP 16	10:55	14.0	1.53	17.6	DH48	35															
SEP 24	15:47	19.0	1.44	17.6	DH48	9															
SEP 27	12:10	15.0	1.93	17.6	DH48	21	289														
OCT 02	08:55	11.5	1.34	17.6	DH48	33															
OCT 06	08:10	10.0	1.82	17.6	DH48	62															
OCT 13	10:39	10.0	1.86	17.6	DH48	36	289														
OCT 23	07:40	9.0	1.65	17.6	DH48	58															
OCT 29	14:20	7.0	1.47	17.6	DH48	14															
OCT 30	16:02	7.0	1.48	17.6	DH48	17	316														
NOV 03	12:14	8.5	1.84	17.6	DH48	21															
NOV 04	09:45	8.5	4.31	17.6	DH48	112															
NOV 05	14:30	9.0	7.75	17.6	DH59	234															
NOV 05	15:55	9.0	7.52	17.6	DH48	180															
NOV 10	15:50	4.0	7.02	17.6	DH48	258	390														
NOV 13	13:55	5.0	7.31	17.6	DH48	249															
NOV 14	12:10	4.0	7.26	17.6	DH48	217															
NOV 18	10:45	4.0	4.60	17.6	DH48	52															
NOV 19	10:55	6.0	5.84	17.6	DH48	179	369														
NOV 22	12:15	4.0	3.14	17.6	DH48	19															
NOV 27	14:17	3.0	2.48	17.6	DH48	51															
DEC 02	10:32	2.0	9.96	17.6	DH59	517	428														
DEC 03	09:15	2.0	5.53	17.6	DH48	77															
DEC 05	08:18	2.0	3.52	17.6	DH48	45															
DEC 08	13:45	3.0	2.49	17.6	DH48	24															
DEC 12	10:41	2.0	2.53	17.6	DH48	27	344														
DEC 18	11:28	0.1	1.63 W	17.6	DH48	41															
DEC 23	16:02	0.1	1.70 W	17.6	DH48	31															
DEC 25	16:46	0.1	1.78 W	17.6	DH48	17															

NOTE : SINGLE VERTICAL LOCATED AT 17.6 METRES FOR 1985

DISCHARGE SYMBOL(S): W - DAILY MEAN; ICE CONDITIONS

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 02	10:08	0.1	1.68 W	17.6	DH48	23	378														
JAN 06	12:15	0.5	1.66	17.6	DH48	58															
JAN 11	16:32	0.1	1.71 W	17.6	DH48	54															
JAN 19	12:27	0.1	3.60 W	17.6	DH48	47															
JAN 20	08:00	0.1	7.00 W	17.6	DH48	236	386														
JAN 21	11:15	0.1	4.45 W	17.6	DH48	49															
JAN 23	14:45	0.5	3.24 W	17.6	DH48	30															
JAN 28	11:52	0.1	1.71 W	17.6	DH48	32															
FEB 02	10:52	0.1	1.74 W	17.6	DH48	37															
FEB 05	16:20	0.1	2.80 W	17.6	DH48	32															
FEB 11	16:12	0.1	1.71 W	17.6	DH48	28															
FEB 15	12:36	0.1	1.65 W	17.6	DH48	98															
FEB 20	11:40	2.0	1.95	17.6	DH48	55															
FEB 22	09:46	0.1	2.07 W	17.6	DH48	34	428														
MAR 04	11:31	0.1	1.71 W	17.6	DH48	30															
MAR 10	11:13	0.1	2.35 W	17.6	DH48	29															
MAR 11	11:47	0.1	4.80 W	17.6	DH59	305															
MAR 15	15:27	0.1	8.85 W	17.6	DH59	1800															
MAR 19	09:00	0.5	25.1 W	17.6	DH59	2050	391														
MAR 19	10:18	0.5	25.1 W	17.6	D74	3380															
MAR 19	13:40	1.0	25.1 W	5.0 X	DH48	5870	302	8	12	22	31	50	80	94	99	100			20	68	12
MAR 19	18:00	0.5	51.8	5.0 X	DH48	2640	223	6	9	23	36	59	78	90	100				22	69	9
MAR 20	11:30	0.1	18.4	17.6	D74	3530	236														
MAR 21	16:55	0.1	10.5	17.6	D74	424															
MAR 22	16:42	1.5	8.75	17.6	D74	269															
MAR 24	19:05	2.0	8.43	17.6	D74	424	275														
MAR 25	17:22	5.0	6.34	17.6	D74	203															
MAR 26	13:20	4.0	8.51	17.6	D74	400															
MAR 27	14:45	5.0	9.80	17.6	D74	328	363														
MAR 30	08:45	8.0	6.50	17.6	D74	170															
APR 02	13:50	11.0	4.06	17.6	DH48	68															
APR 06	16:34	8.0	3.48	17.6	DH48	50															
APR 10	13:50	5.5	2.71	17.6	DH48	13	377														
APR 11	14:10	5.0	2.71	17.6	DH48	38															
APR 14	13:00	10.5	2.31	17.6	DH48	74															
APR 19	14:37	14.0	3.20	17.6	DH48	45															
APR 21	15:30	12.0	4.54	17.6	DH48	79															
APR 23	11:30	7.0	3.44	17.6	DH48	37															
APR 28	14:32	20.0	2.15	17.6	DH48	32	302														
MAY 01	12:40	12.0	2.04	17.6	DH48	33															
MAY 04	18:57	12.0	1.87	17.6	DH48	56															

NOTE :

DISCHARGE SYMBOL(S): W - DAILY MEAN; ICE CONDITIONS
VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
MAY 12	13:35	19.0	1.50	17.6	DH48	19															
MAY 16	14:42	19.0	2.11	17.6	DH48	33															
MAY 19	10:57	16.0	7.12	17.6	DH59	578	383														
MAY 20	15:25	14.0	11.1	17.6	DH59	499	419														
MAY 20	19:25	12.0	10.4	17.6	DH59	306															
MAY 25	15:17	20.0	3.11	17.6	DH48	108															
MAY 28	12:45	22.0	1.93	17.6	DH48	80															
MAY 29	11:20	23.0	1.72	17.6	DH48	74															
JUN 03	12:35	18.0	1.36	17.6	DH48	60															
JUN 10	19:30	20.0	1.42	17.6	DH48	55															
JUN 17	08:27	17.0	2.65	17.6	DH48	1440	327														
JUN 23	08:15	21.5	2.88	17.6	DH48	229	357														
JUN 30	18:10	23.0	1.28	17.6	DH48	962															
JUL 15	13:10	23.0	1.14	17.6	DH48	48															
JUL 19	14:00	23.5	5.47	17.6	DH48	653	356														
JUL 25	13:15	26.0	1.15	17.6	DH48	31															
AUG 04	07:40	18.5	1.14	17.6	DH48	97															
AUG 07	18:47	20.0	2.17	17.6	DH48	654	344														
AUG 15	16:40	21.5	3.97	17.6	DH48	59[illegible]															
AUG 16	12:15	20.0	14.8	17.6	DH59	648															
AUG 22	11:45	20.5	1.45	17.6	DH48	26															
AUG 27	06:00	18.0	31.6	17.6	DH59	2870	257	30	40	62	72	92	95	98	100				5	55	40
AUG 27	12:00	17.5	14.7	17.6	DH59	878	323														
AUG 29	13:50	18.0	3.27	17.6	DH48	103															
SEP 05	07:30	17.0	1.69	17.6	DH48	41															
SEP 05	12:50	18.0	1.45	17.6	DH48	18															
SEP 11	06:55	16.0	39.4	17.6	DH59	2470	241	30	35	56	67	83	92	97	100				8	57	35
SEP 16	07:40	9.5	8.57	17.6	DH59	582	219														
SEP 20	13:45	14.0	9.36	17.6	DH59	678	304														
SEP 23	09:00	13.0	22.2	17.6	DH59	1210	340														
SEP 29	17:20	16.5	6.64	17.6	DH59	168	373														
SEP 30	08:20	16.0	17.9	17.6	DH59	1580	309														
OCT 01	16:30	16.0	8.34	17.6	DH59	175	336														
OCT 09	09:30	10.0	3.25	17.6	DH48	44															
OCT 17	12:10	8.0	3.14	17.6	DH48	19															
OCT 24	13:36	10.0	2.09	17.6	DH48	8															
OCT 31	10:45	6.5	2.08	17.6	DH48	15															
NOV 06	12:35	6.0	1.80	17.6	DH48	7	449														
NOV 17	10:20	1.5	1.61	17.6	DH48	8															
NOV 25	12:15	2.0	3.02	17.6	DH48	39															
NOV 25	15:15	2.0	3.02	17.6	DH48	30															

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1986

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)		SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
									.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
DEC 01	12:50	0.1	1.32	W	17.6	DH48	28															
DEC 10	11:55	0.1	2.13	W	17.6	DH48	45															
DEC 17	15:20	0.1	2.11		17.6	DH48	70															
DEC 19	09:00	0.1	3.08		17.6	DH48	68	424														
DEC 30	11:20	1.0	2.58		17.6	DH48	43															

NOTE :

DISCHARGE SYMBOL(S): W - DAILY MEAN; ICE CONDITIONS

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)		SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
									.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JAN 07	14:25	0.1	2.37	H	17.6	DH48	70															
JAN 16	15:10	0.1	2.03	W	17.6	DH48	39															
JAN 20	11:10	0.1	1.33		17.6	DH48	21															
JAN 23	11:25	0.1	1.17	W	17.6	DH48	49	214														
JAN 31	12:20	0.1	0.900	W	17.6	DH48	57															
FEB 06	11:00	0.1	1.20	W	17.6	DH48	43															
FEB 12	11:20	0.1	1.25	W	17.6	DH48	27															
FEB 17	15:15	0.1	1.01		17.6	DH48	19															
FEB 20	13:30	0.1	0.950	W	17.6	DH48	38															
FEB 28	12:30	0.1	0.810	W	17.6	DH48	20															
MAR 01	11:30	0.1	3.00	W	17.6	DH48	203	228														
MAR 06	11:45	0.1	4.00	W	17.6	DH48	89															
MAR 07	16:40	0.1	7.00	W	17.6	DH59	666															
MAR 08	09:45	0.1	18.0	W	17.6	DH59	645	416														
MAR 08	12:40	0.1	18.0	W	17.6	DH59	2740	424														
MAR 14	11:30	0.1	3.73	W	17.6	DH48	54															
MAR 16	11:55	0.1	3.69		17.6	DH48	96															
MAR 18	10:50	1.0	3.66	W	17.6	DH48	114															
MAR 22	13:25	2.0	4.84		17.6	DH59	159															
MAR 23	15:50	2.0	5.45		17.6	DH59	146	325														
MAR 27	13:05	4.0	6.19		17.6	DH59	151															
MAR 27	18:10	6.0	5.89		17.6	DH59	157															
MAR 30	10:20	4.0	5.22		17.6	DH59	210															
MAR 31	18:30	1.0	7.06		17.6	DH59	153															
APR 01	18:50	2.5	6.52		17.6	DH59	113															
APR 03	15:45	5.0	6.01		17.6	DH59	94															
APR 05	10:00	3.0	22.5		17.6	DH59	2830	302	7	11	20	32	56	72	94	97	100			28	61	11
APR 06	16:20	5.0	20.3		17.6	DH59	913	296														
APR 06	19:10	5.0	20.4		17.6	DH59	897	279														
APR 10	13:30	9.0	5.26		17.6	DH48	78															
APR 10	16:30	12.5	4.34		17.6	DH48	35															
APR 21	15:25	20.0	2.73		17.6	DH48	21															
APR 22	08:35	14.0	2.82		17.6	DH48	19															
APR 29	13:30	11.5	2.58		17.6	DH48	34															
MAY 01	13:15	9.0	2.44		17.6	DH48	25															
MAY 05	10:45	12.0	1.97		17.6	DH48	15															
MAY 12	14:45	21.5	1.74		17.6	DH48	18															
MAY 22	08:34	22.0	1.81		17.6	DH48	51															
MAY 29	07:45	21.0	1.67		17.6	DH48	30															
JUN 10	10:50	16.5	1.36		17.6	DH48	49															
JUN 14	07:45	19.5	2.82		17.6	DH48	214															

NOTE :

DISCHARGE SYMBOL(S): H - DAILY MEAN W - DAILY MEAN; ICE CONDITIONS

(CONTINUED)

HUMBER RIVER AT ELDER MILLS

STATION NO. 02HC025
(CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (C)	INSTANT. DISCHARGE (M3/S)	SINGLE SAMPLING VERTICAL (M)	TYPE OF SAMPLER	INSTANT. CONCENT. (MG/L)	DISSOLVED SOLIDS (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES											PERCENT		
								.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	SAND	SILT	CLAY
JUN 16	11:20	20.0	1.45	17.6	DH48	80															
JUN 25	13:10	26.5	1.39	17.6	DH48	49															
JUN 29	14:45	22.5	1.18	17.6	DH48	33															
JUN 30	11:10	22.0	1.25	17.6	DH48	39															
JUL 06	12:50	24.0	1.37	17.6	DH48	53															
JUL 08	09:50	24.0	2.18	17.6	DH48	113															
JUL 09	13:45	25.5	3.69	17.6	DH48	152	355														
JUL 10	12:00	25.0	6.13	17.6	DH48	493															
JUL 15	09:45	19.0	2.57	17.6	DH48	313															
JUL 23	09:10	25.0	1.31	17.6	DH48	33															
JUL 30	12:00	26.0	1.04	17.6	DH48	12															
AUG 05	08:50		1.21	17.6	DH48	42															
AUG 13	14:30	23.0	1.21	17.6	DH48	20															
AUG 14	10:20	23.0	1.23	17.6	DH48	23															
AUG 20	11:10	22.0	1.10	17.6	DH48	20	376														
AUG 28	13:30	17.5	1.01	17.6	DH48	19															
SEP 03	11:00	15.5	1.08	17.6	DH48	22															
SEP 10	12:55		1.29	17.6	DH48	25															
SEP 18	13:05	14.0	1.24	17.6	DH48	22															
SEP 22	09:40	15.0	3.14	17.6	DH48	320	287														
SEP 29	10:35	16.5	2.57	17.6	DH48	75															
OCT 14	10:15	7.0	1.46	17.6	DH48	12															
OCT 19	12:30	7.0	1.44	17.6	DH48	10															
OCT 22	10:10	6.0	1.45	17.6	DH48	10															
NOV 05	11:10	8.0	1.53	17.6	DH48	7															
NOV 07	09:30		1.53	17.6	DH48	7															
NOV 26	09:30	1.0	3.16	17.6	DH48	37															
NOV 29	15:00	4.0	4.90	17.6	DH48	181															
DEC 07	13:20	1.0	1.61	17.6	DH48	129	345														
DEC 10	11:35	5.0	4.92	17.6	DH48	135															
DEC 16	15:40	4.0	2.73	17.6	DH48	13															
DEC 17	11:10	0.5	2.20	17.6	DH48	14															
DEC 21	15:15	0.1	5.80	17.6	DH48	188	386														